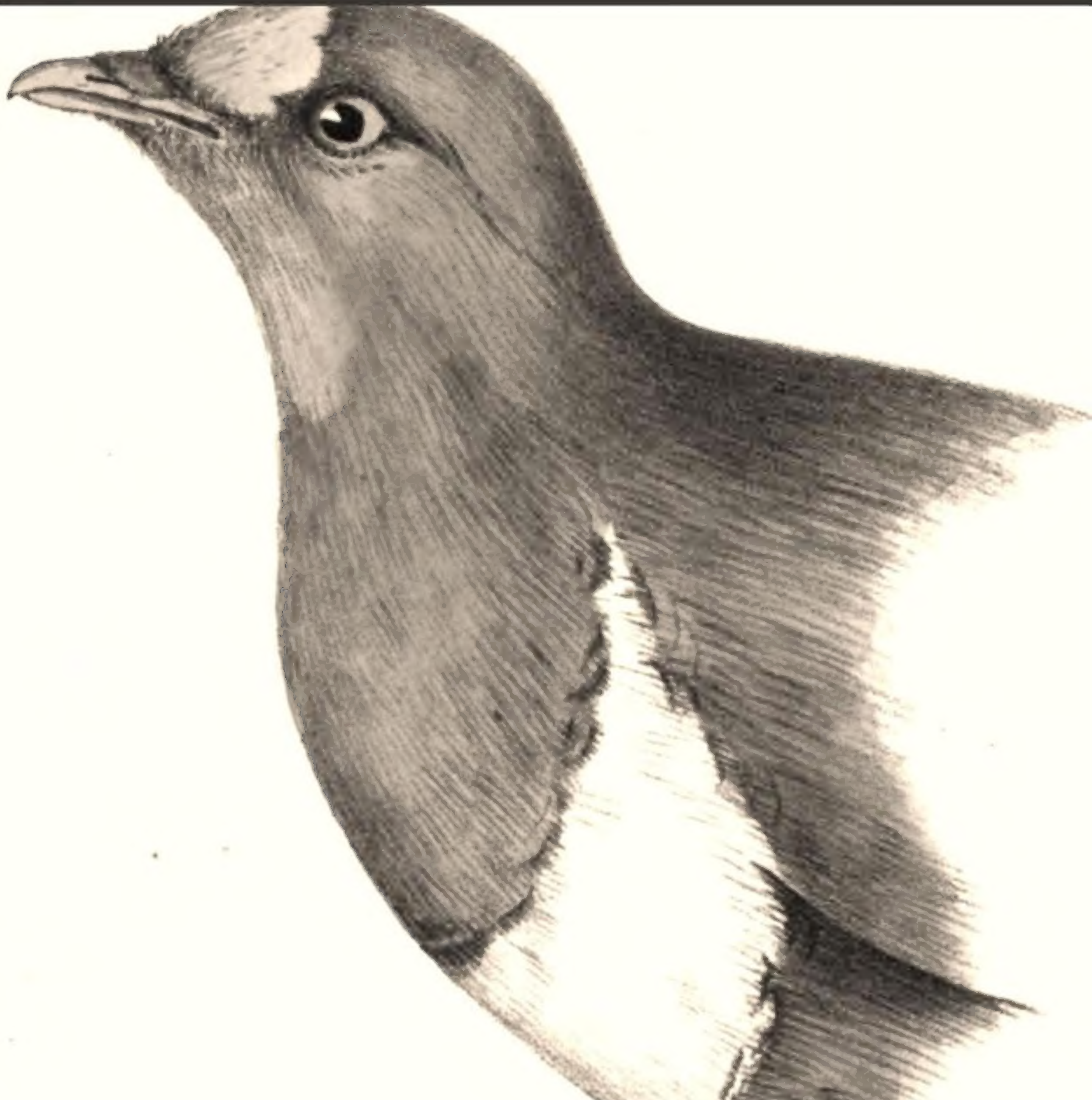


Contributions to Ornithology, 1848-1852

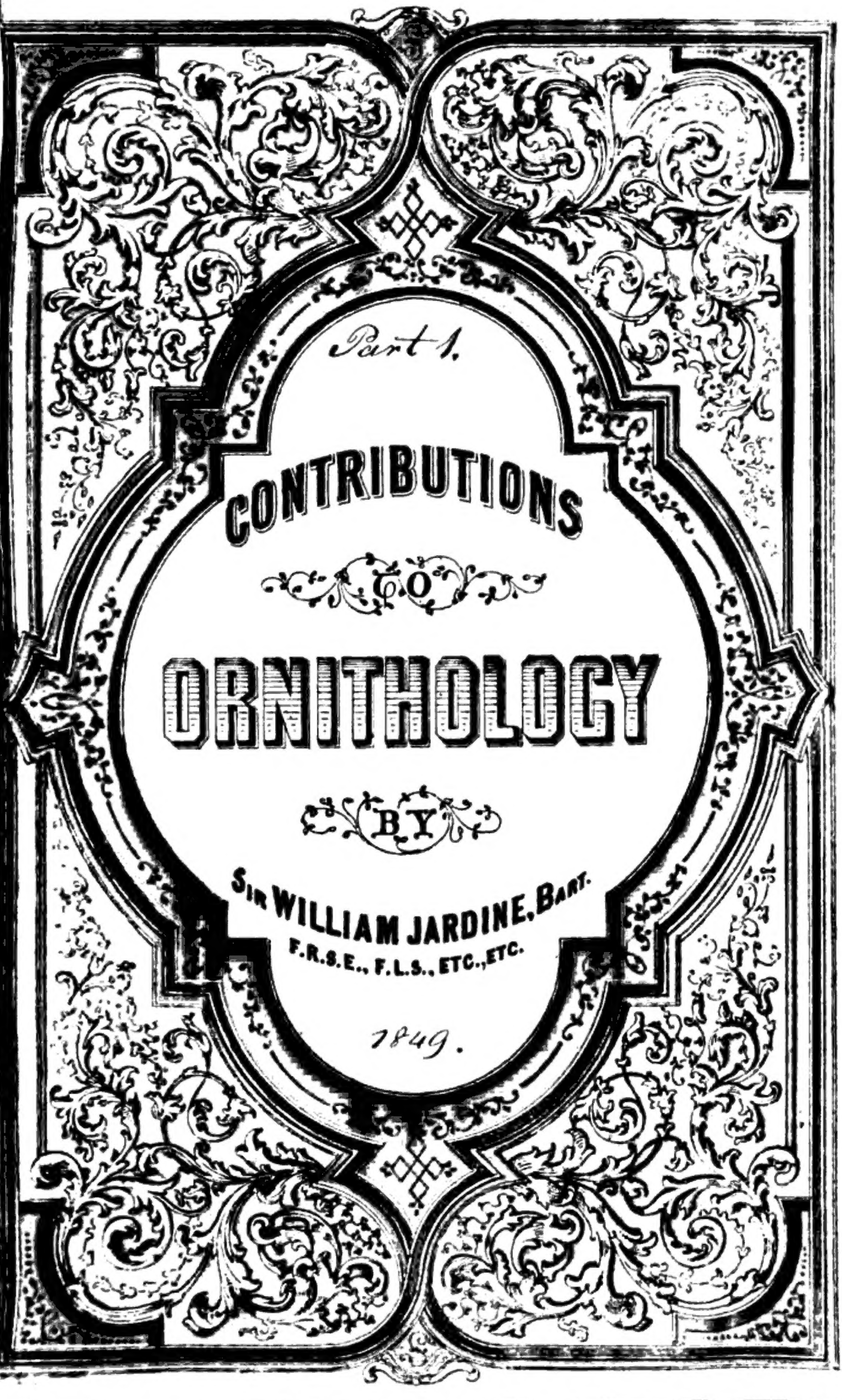
William Jardine

PRESS 6.95.
SHELF N
Nº 13.

600015641N

C

18961 d. 318



Part 1.

CONTRIBUTIONS

TO

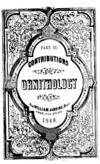
ORNITHOLOGY

BY

SIR WILLIAM JARDINE, BART.

F.R.S.E., F.L.S., ETC., ETC.

1849.



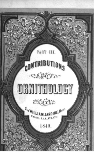
PART II.

CONTRIBUTIONS TO ORNITHOLOGY

BY

SIR WILLIAM JARDINE, BART.
F.R.S.E., F.L.S., ETC., ETC.

1849.



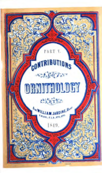
PART III.

CONTRIBUTIONS
TO
ORNITHOLOGY

BY

SIR WILLIAM JARDINE, BART.
F.R.S.E., F.L.S., ETC. ETC.

1849.



PART V.

CONTRIBUTIONS

TO

ORNITHOLOGY

BY

SIR WILLIAM JARDINE, BART.
F.R.S.E., F.L.S., ETC. ETC.

1849.

CONTRIBUTIONS TO ORNITHOLOGY.

1848.

CONTRIBUTIONS TO ORNITHOLO

1848.

HINTS
FOR
PREPARING AND TRANSMITTING ORNITHOLOGICAL SPECIMENS
FROM
FOREIGN COUNTRIES.

THE following remarks intended as a guide for any traveller or sportsman, to enable him to collect and observe, may not be deemed an inappropriate introduction for "CONTRIBUTIONS TO ORNITHOLOGY." How many men, in all professions, often with time hanging heavy on their hands, are thrown into favourable opportunities for obtaining information! Men who have the ability and even the inclination to work, but who want some direction; and when asked, on their return from abroad, Why did you not get this or that? reply, "We did not know how to prepare them:" or, "We thought them of no consequence. Write us out directions, and we shall procure them another time." What opportunities are afforded to men in the army and navy: the latter, in particular, touching ever and anon at new lands, and followed even in their sea courses by the denizens of the air! In a well managed vessel, the surgeon has frequently much spare time; and his superior officers, when they see an inquiring mind, generally are, and always ought to be, willing to lend assistance. Merchants also have ample opportunities, from trading with the natives of foreign countries, and often in the interior; and how many young men of fortune make extensive tours, where some study or pursuit to engage their minds would be most advantageous.

Shooting and sporting excursions, of late years, have been undertaken much beyond the limits of our islands, and may soon range to extra European lands; and it is a pity that these should only end as a temporary excitement, or an indiscriminate slaughter of animal life. These are generally well appointed, and carried out with great expense. The projectors often want only direction; and the assistance of a neat handed, or qualified servant to the party, would often, if not always, produce results of great benefit to our knowledge. Among this class of travellers and sportsmen, however, there are many very honourable exceptions; and we have soldiers and sailors, merchants, governors, and persons in office, and private gentlemen, who have all wrought zealously and heartily, and whose researches and discoveries have been most valuable; but in all our applications to friends abroad, or going abroad, we are constantly met with the request, "Do write us out directions, and give us a list of what you want." To the last, we invariably reply, *Send every thing;* and to the first we are about to comply, by printing directions for the use of our friends and correspondents who may require them.

We shall first describe the manner of preparing a bird as a skin, supposing that abundance of the proper materials and instruments are at hand, and the person in his own appropriated working-room. Any person with a moderate share of intelligence, and accustomed to use his hands, will be able to turn and accommodate his opportunities and means to the different situations in which he may be placed; and it must be kept in view, that in distant and little visited lands, where circumstances may sometimes occur which render it almost impossible to preserve or bring away perfect specimens, a skin in any condition, or fragments of it, the head, a wing, or foot, are always worth preserving.

The specimen being cooled, before commencing to skin, the mouth and nostrils should be cleaned of any blood or other matter, and the tow or cotton with which they may have been stuffed when killed, renewed, so as to absorb any liquid that may probably flow from them, and prevent it soiling the plumage. The specimen laid upon its back, should have the feathers of the belly separated or blown aside, and an incision made from about the middle of the breast or sternum to the vent; the skin should now be gradually separated at each side, until the legs appear, which should be either disjointed at the knees, or cut immediately above them with scissors, after which the skin becomes comparatively free, and allows the body to be skinned and cut out at the tail, which is best done by placing it, as it were, tail uppermost, and gradually skinning round until the rump can be cut through. During all this part of the skinning, and indeed throughout the whole operation, free use should be made of paris plaster, fuller's earth, or such substances, to absorb the blood or grease, both on the specimen and hands; and, for that purpose, a plate, containing one of these, should stand within reach. The tail or rump being cut through, the most difficult part is over; and, in the absence of any one to hold the specimen up, it may be tied by one of the thighs and hung from a nail, the operator turning the skin inside out, and gradually separating it from the body, disjointing the wings close to it; and after getting the head clear as far as the eyes, separating it at the junction of the neck, without cutting or injuring the skull. The brains are removed at the occipital hole; and the eyes, with a little care, are easily dissected out, without bursting the humours, by commencing at the posterior part, and cutting the adhesions and optic nerve before attempting to turn them out. All the other fleshy parts of the head must likewise be cleaned away and removed. In a few birds, such as woodpeckers, ducks, grebes, &c., the diameter of the skin of the neck is too small to pass the skull; and to get out the brain, eyes, and otherwise clean it, an incision must be made in the throat, or back of the neck, after inverting the skin, through which it can be easily turned out and thoroughly cleaned. The body being now completely removed, it remains to clean the inside of the skin from all pieces of flesh or fat remaining upon it, which, if the bird has been neatly skinned, should be very small; and a little pains devoted to taking the skin cleanly off, often saves much time afterwards. The wings must be pulled out and skinned, as far as the carpal joint (the second from the shoulder); and the bones, after being pasted or dusted with the preserving paste or powder, should be wrapped round with tow or cotton, to replace the space occupied by the flesh; the skin is then drawn over and the feathers put in position. In some birds, the *second* or *ulnar* joint of the wings may be more conveniently cleared of the flesh, by opening it on the under side, instead of reversing the skin from within. The

Digitized

same must be done with the legs; and the end of the tail must be very carefully cleaned of all flesh, grease, the oil glands, &c. These being done, the bird is ready either to be set up and mounted, or made into a "skin." For the latter, it only remains to fill the skin, according to its size, with some soft material, such as tow, cotton, or wool, taking care not to distend it beyond or even so far as its natural bulk: previous to doing this, the inside of the skin should be well covered with whatever preserving paste or salve is in use; and before inverting the head, it will be found more convenient to fill the orbits with cotton, which the skin draws easily over. The throat and neck may be stuffed from the mouth. Before the body is filled, the wings should be properly placed; and it is sometimes convenient to tie the ends of the wing bones together inside. When sufficient stuffing has been used, the opening in the belly should be lightly stitched together. In conclusion, the skin should be put in the position desired, and so retained until dry, by a piece of cotton wool, linen or cotton cloth, or by a piece of not too stiff or hard paper, wrapped round and stitched or pinned. It is a convenient plan, to roll up and pin together a piece of paper, in the form of a *cone*, of suitable size to contain the head, neck, and breast of the bird while drying; the feathers are thus kept smooth, and the paper cones may be left on the specimens after they are packed away. The drying may be assisted, if necessary, or in damp weather, by artificial heat, moderately applied at first.

For the purpose of preserving the breast and belly very clean, it is often recommended to make the first incision below the wing or on the back, but we do not consider either of those modes so good as opening the belly; and if the specimen should be intended to be mounted, the stuffer generally sews up the dorsal or lateral incision, making the ordinary one in front for himself. No wire or stick should be inserted in the legs, neck, or inside the skin, with the intention of keeping it straight; no salt should be used in any preserving paste; no thread or string should be passed through the nostrils; and the specimen should never be hung up to dry, as this always stretches the skin.

The best kind of *skinning knife*, is one of moderate size, with a scalpel formed blade, which, for home use, may be fixed in the handle; but, to carry on excursions, is better made to close and to have two blades, one of which may be used for ordinary purposes.

If circumstances permit, a stronger knife is preferable for large birds, and for most of the heavier sea fowl; but for general use, one of middle size and strength will be found the most useful, and sufficiently powerful, if carefully used, to dissect the strongest specimen.

The *scissors* should be dissecting scissors with lengthened handles, but the latter should be of considerable strength, those sold as dissecting scissors being generally too weak in the handles, and too elastic when used to cut a strong bone.

For scooping out the brain, a piece of iron with flattened spoon-shaped ends is commonly used, but we have found a quill, reed, or piece of flattened wood, a sufficient substitute, and do not recommend any thing for this purpose to be carried from home.

Needles for stitching up the skin, or holes in it, should be slender, but of considerable length, so that they can be put in and out without the fingers interfering with the feathers. They should be from two to four inches in length; and, I believe, are sold in shops under the name of "silk darning needles." Linen thread is best; and, except for the smaller specimens, where it may be required finer, what is called unbleached thread is preferable. Silk thread of any kind does not answer well.

The best preservative for the skin is *arsenical soap;* and, for convenience of carriage, it may be made up in pots or in square cakes. When used, it should be wetted with a hog's-hair brush, and laid over the skin, of the consistence of not very thick cream, pasting also the skull, rump, wing, and leg bones; and, in foreign countries, a little put over the soft parts externally, the legs, bill, naked skin or wattles, has been found useful as a protection against insects. Mr. Gould used this paste successfully for all his collections in Australia, and had it made up in cakes by Messrs. Wadworth & Housley, chemists, Broad Street, Golden Square, London. The prepared stock may however run out; and the following is the receipt for the paste alluded to, which will be prepared by any chemist or druggist, or almost wherever the materials may be procured:—

	Camphor	5 ounces.
	Arsenic in powder	2 pounds.
	White soap	2 pounds.
X	Salts of Tartar	12 ounces.
	Lime in powder...	4 ounces.

I believe that the two last ingredients would be better omitted, and the proportion of Arsenic reduced one half. — H. E. Strickland

A mixture of the three first ingredients is sufficient; and for small or thin-skinned specimens, a less quantity of arsenic is requisite. For such, one part or a little more of arsenic to three parts of soap will be about the necessary proportions. The salts of tartar, if allowed to come upon the feathers, will change the colours; and the above receipt is given as that used by Mr. Gould and other collectors abroad.

The following is a receipt for a *powder*, which has been found to answer very well.

Tobacco (rubbed to a powder, or Snuff) }
Burnt Alum ... ... } Equal parts.
Black Pepper ... ... }
And to every ounce in weight add about a third part of arsenic in powder.

The best *stuffing materials* are tow or cotton: wool may be used, and generally fills most of the Australian skins; but it is often greasy, and on that account objectionable.

By a person at home, every work may be performed in the manner and with the materials we have now mentioned; but every one will contrive little conveniences for himself, and fall into his own mode of working. To a person travelling abroad, every thing cannot always be at hand, and the less that can be carried the better: knives, scissors, preserving paste or powder, and a little cotton, are perhaps the most necessary. We have skinned many a specimen with a very ordinary knife alone, yet a few such as have been mentioned may be useful for various purposes, and one need scarcely ever be at a loss. Scissors are convenient but not indispensable; so are needles. Thread is more necessary, as it may be used to tie round the skin and keep it together in the want of any thing better. In the absence of arsenical paste or powder, tobacco or snuff may almost always be procured; and peppers, burnt alum, or arsenic alone, are all good substitutes. Salt or saltpetre should never be employed; and corrosive sublimate, so frequently recommended, should be carefully and sparingly used. If the solution is too strong, the skin, when wetted for mounting, or for any purpose, is quite brittle, and breaks into holes as though burnt. We would only use this for strong or very greasy skins. For stuffing, where tow or cotton cannot be obtained, any dry material may form a substitute. On shipboard, for large species, oakum answers very well, and is at the same time a preservative. We have received specimens which have been stuffed with fine grass, leaves, moss, lichens, fine lycopodiums, and ferns: in short, any thing *dry*, that keeps the skin slightly apart, will supply a temporary want, until opportunity occurs of procuring a more abundant or better material.

Much of the value of collections consists in the observations that accompany them, and in the localities of the specimens being authentically recorded. This is best accomplished by a card or vellum ticket, attached to the leg of each, and it should be *looped* on, as it often slips if knotted. On this a number, the locality, the date, the sex, ♂ ♀, the colour of the irides, or any remark that it will contain, should be written *at once.* The number should refer to a memorandum book, where, when possible, all extended remarks that can be collected should be inserted: locality and nature of the country; season of the year when taken; native name; superstitions regarding; uses for food or dress; proportional abundance as a species; if migratory, and the seasons of appearance and disappearance; nidification; note; food; colour of soft parts; in short, every obtainable information. It would be convenient to carry abroad a quantity of the labels, numbered and threaded, ready to loop on; and so soon as the bird is killed, one should be attached, and the note made as a future guide for the memorandum book: it should never be delayed, as among the multiplicity of objects, confusion will now and then occur. To these remarks, sketches of the head or soft parts, and naked skins, wattles, &c., coloured from the objects before they have faded, are very valuable additions; and, for this purpose, a small stock of water-colour drawing materials should accompany the collector's other tools. These sketches require to be very slightly made, the tints being laid on pure and of the natural depth. Where a species is found feeding on some particular insect, or fruit, or berry, and the collector is not an entomologist or botanist, it would be desirable to have a small quantity of these specimens. These may either be sent in spirits, or the flower of the plant dried, or a few specimens of the insect sent dried in a small pill or card, or what is better, tin box, each numbered with the number corresponding to the label on the specimen. A collection, accompanied by such memoranda, would be worth, in the market, double, if not triple to that of one indiscriminately made, even though the specimens were in finer preservation.

The nidification of birds is an important portion of their economy, and the nests and eggs form interesting additions to a collection. Some of the former, from their size and loose structure, are difficult to transport, and a memorandum regarding them may suffice; but many of the smaller species build structures of extreme beauty and neatness, which can be transmitted without any great trouble or expense. These should be brought home attached to the branch or twig supporting them; and, when packed, should have some soft substance put inside to prevent them being squeezed together. The eggs should be blown on the spot when taken from the nest: it lessens their liability to be broken; and the collector should, if possible, be provided in his rambles with a few tin boxes, for the purpose of carrying the more delicate in his bag or basket. They may be blown either from two holes, the one a little upon the lower side; or the contents may be emptied, if they are too far incubated, from a larger hole on the one side. Before laying aside or packing, the inside should be rinsed out with a weak solution of corrosive sublimate, which prevents or destroys mites or other insects. The name of the species should be *written* on each egg, with a number referring to it in the memorandum book. The outside of the egg should *never* be coated over with gum or varnish.

The specimens having been properly prepared and thoroughly dried, it still remains to keep them safely until a sufficient store has been got to form a parcel, and to pack them well and carefully for travelling; for all the labour of a long season may be lost by carelessness of packing, or by tumbling them loose into some box, in which the rolling of a ship, or the admission of sea-water, may reduce the bird-skins into a bundle of felt. The most important precautions are, to dry the skins sufficiently, and to keep them in a place as well aired as circumstances will admit, until ready to be sent off. In warm countries, however, this is frequently very difficult, from the depredations of ants, cockroaches, and the larvæ of some coleoptera; and strong cases, with well fitted lids, are indispensable. Various spices, intermixed with the specimens, are used with advantage. In this country we have found pounded hellebore a very cheap and good *insectifuge* (but disagreeable assistant); but camphor, or any of the aromatic oils, are the best, the latter or turpentine being particularly obnoxious to insects; and turpentine, if highly rectified, may be used without injury to the feathers.

Cases which have to undergo a long sea voyage should be lined with tin; and, when packed, the lid should be soldered down: this may prevent the accidental admission of sea water. If the tin lining is not available, the case should be closely made, and the joinings pasted up with strong paper on the inside, and pitched or painted er on the outside. In packing, each skin should be, if possible, apped in paper or such like material, particularly those whose umage is easily soiled. They should be packed firmly; for it must be recollected, that the jumble of travelling makes them settle down, and leaves an open space, which causes the specimens to be rubbed together. Any soft material is of use in packing the corners; and if the box is large, it might be placed advantageously in thin layers to separate the specimens. In the want of some better packing material, moss, lichen, or fine lycopodiums, thoroughly dry, answer exceedingly well among paper-wrapped specimens, and ve the advantage of being, when damped, useful to the botanist terwards. Camphor or spices may be usefully put in before the se is shut up, but no oils or liquids should be put in a travelling cargo. The smaller sized eggs of birds may be packed with cotton, in moderately sized pasteboard boxes, which, being light, do no harm placed among the skins. Some of the stronger large eggs will travel quite safely, rolled in cotton, and placed in the corners; but if a sufficient number has been collected, particularly of sea fowl, they are best packed in a separate box, with sawdust, chopped hay, moss, or fern. Finally, the case should be carefully and distinctly addressed, and the name of the vessel, her captain or master, and port to which she is sailing, should always be sent by post letters, with an invoice or receipts, to the person for whom the consignment is intended; several instances having occurred, in our own experience, where cases could not be traced from the neglect of these precautions.

In the present state of science, where more is required than an acquaintance with the external forms and characters only, it is very desirable that opportunities should be given to examine the internal structure and the skeleton. For this purpose, it is important that the skeleton or entire bird should be preserved or transmitted. Distinct forms and genera, particularly those not European, are the most important for study; next, species where some peculiarity of structure is known or supposed to exist. Among the number of species which are likely to be brought to a collector abroad, there will be many unfit for good skin preparations, the skull or sternum of which should be kept; and where the species is abundant, two or three entire skeletons should be prepared. The sternum, or breast-bone, with the shoulder-bones and merry-thought attached, may always be separated from the carcase, after a bird is skinned, and will be highly valuable to comparative anatomists, provided the name of the species to which each specimen belongs be carefully recorded. This is easily done by clearing the flesh roughly off, and hanging up in the sun to dry, which is assisted, if the specimen, after clearing, can be steeped in water for twenty-four hours before hanging up. When hung up, the neck, legs, and wings, should be retained in the least possible space, both on account of economy in packing, and for safety to the specimen. Any of the soft parts that may be considered important, can only be sent in spirits, and should be put in immediately on being removed from the specimen. To transmit the specimens entire, two modes have presented themselves to our experience, both of which answer well if common care is taken in putting them up. The first is sending the birds entire in spirits. In doing this, specimens may be put from time to time in a jar of moderate size, kept in a cool place, care being taken not to put in any which are tainted, even slightly, with decay; a small incision should be made in the belly to admit the spirits inside. When ready to be despatched, they should be removed to another jar, and fresh good spirit supplied. The specimens should be put in with the feathers on, so that they can be recognised afterwards, and too many should not be put together, the collector bearing in mind, that a certain quantity of spirit will only preserve a certain quantity of animal matter; and although, in any case, they might serve for skeletons, they would otherwise be quite useless for any examination of the soft parts. The top should be securely closed and pitched or painted over, to prevent escape of spirits during the transmission. Wax is dissolved by spirits, and is therefore objectionable as a closing medium. A thin sheet of Indian rubber is the best material for closing the mouths of spirit jars; next to that is a cork bung, covered with *linseed poultice* or dough, and then a bladder or piece of leather tied over it. If the bladder is *poisoned* with arsenic or corrosive sublimate, it will be the more secure from insect enemies. The second mode of sending specimens home entire, is by using strong brine, or salt and water, instead of spirits, using the same precautions in packing and closing up; and, for the after examination of the soft parts, this is perhaps preferable to spirits. These two materials may be procured almost any where, and will serve every purpose, if the precautions mentioned are attended to. All skeletons and parts of birds should be labelled, stating to what species they belong, and if possible the sexes, ♂ ♀, marked. The jars or bottles should all be packed in cases. Wide-mouthed pickle and preserve bottles answer the purpose admirably, hold a large quantity, generally as many as should be put together, and are not difficult to procure at foreign stations. They travel well in a moderately sized case, packed with sawdust.

ADDRESS.

Sir WILLIAM JARDINE, Bart.,
JARDINE HALL,
LOCKERBIE,
N. B.

PAPYROGRAPHY

AND ITS

APPLICABILITY TO THE ILLUSTRATION

OF

ORNITHOLOGY.

Resident in the country, and at a distance from any large town where engraving or lithography were practised, we have for a long series of years felt the want of some mode by which we could transfer to paper the work of our own pencil. Engraving requires a large apparatus for its use, lithography still larger, and no person but one who has had occasion to illustrate various departments of natural history, can have felt the delay and expense, or the difficulty to obtain fidelity and character, which attends engraving upon either metals, stone, or wood. It is therefore a great satisfaction to state, that a mode has been discovered, that will produce true representations of a sketch or drawing, and which, with a little farther experience and practice, will, we have no doubt, supply this most essential want, and permit a person, far from conveniences, to obtain faithful impressions of what he has himself drawn. It will be one object of these "Contributions," to employ the various styles of art at command for their Illustration, and to give every information that can promote Ornithology, either practically or scientifically; and it is therefore with much pleasure that we now print an account of the process of Papyrography, which, at our request, has been written out by Hugh E. Strickland, Esq., its discoverer. In addition to facility of transport, and of giving the exact lines penned or drawn by the artist, it has also the recommendation of economy; and although we do not now mention the cost of the specimens given, until we have more experience in the working of the art, we can state, that it is more moderate than any other style of engraving or lithography we have yet practised.

" The mode of delineation for which I propose the name of PAPYROGRAPHY, is a peculiar application of the anastatic art. Anastatic printing consists in transferring to a plate of zinc any design made with an *oily* material on paper. From the impression so transferred, any number of copies can be taken on paper by the same process as in ordinary zincography or lithography.

" The original design on paper, from which the zinc plate is to receive its impression, may be produced either by *printing* (from types, copperplate, wood, stone, &c.), or by the *manual* process of *writing* or *drawing*. The only requisite is, that the vehicle for this design be of an oleaginous nature. In the case of letterpress and engravings, the oily matter is supplied by the printer's ink; but in regard to drawings, there are difficulties in the way of using greasy substances, which are avoided by mixing up the colouring matter, not with *grease* but with *soap*. Thus (as is the case also in lithography), the inks used for writing, and the chalks for drawing, are made with a soapy ingredient. In the act of transferring the design to the zinc, an acid is employed, which neutralizes the alkali of the soap, and brings the latter back to its original oily condition.

" Anastatic printing was originally applied only to the reproduction and multiplication of impressions from type or engraved plates. It was afterwards found, that the soapy ink used by lithographers was capable of producing an anastatic transfer; and consequently, that any *writing* or *pen etching* might be multiplied to an indefinite extent by this process. But it was not until February last that the art of producing anastatic impressions of *chalk drawings* was attained. (See *Athenæum* of Feb. 12, 1848). My attention being at that time called to the various applications of anastatic printing, I was induced to try the effect of *lithographic chalk;* and I found that drawings made on paper with this substance could be readily transferred to zinc, and would supply an indefinite number of impressions. These impressions were not only perfect *fac similes* of the original drawing, but were so exceedingly similar in appearance to lithographs, that it required a practised eye to detect the difference.

"This new process, the original design being made on *paper*, I have distinguished by the name of *Papyrography*. Though it probably admits of being brought to as great perfection as lithography, yet there is no reason to expect that it will surpass that art. Its advantages are therefore *practical* rather than *artistic;* but they are not the less deserving of attention on that ground. These advantages may be thus enumerated:—

"The great size and weight of lithographic stones, or even of zinc plates, are very unfavourable to their general use. A person who wishes to practise lithography or zincography, must either reside in the vicinity of a lithographic printer, or incur great expense in the packing and transmission of heavy stones or plates.

"But if he adopts the Papyrographic process, he has merely to draw on paper with *lithographic chalk* instead of a *lead pencil,* and to send his design by post or otherwise to an anastatic printer, who will speedily strike off the requisite number of impressions.

"If a person is so situate as to be unable to procure lithographic stones, or to send them to a printer, his only resource, if he wishes to multiply copies of his designs, is to send them to some lithographic artist or engraver, who, however great may be his skill, or however perfect may be the copy which he produces, can never enter into the ideas, or fully realize the spirit of the original designer. No one who has had an opportunity of comparing prints with their prototypic drawings, when they are the work of different artists, can have failed to be struck by the superior boldness and originality of the latter. Now by the Papyrographic process, all intermediate assistance is dispensed with, the actual touches of the original artist are transferred to the metallic plate, and are reproduced by the press with unerring fidelity, to an unlimited number of impressions.

"Even when an artist possesses a knowledge of the lithographic art, and the requisite facilities for practising it, he still lies under the inconvenience of being obliged to *reverse* his drawings, in order that they may assume their true aspect when printed. Those who have never tried it, are little aware of the difficulty of *drawing backwards*—a difficulty which has deterred many artists from the pursuit of lithography. The Papyrographic process is entirely free from this objection; for the drawing being made *direct* on the paper, becomes *reversed* by being transferred to zinc, and the impressions taken from the latter are consequently *direct*, as in the original.

" It is thus evident, that Papyrography has great practical advantages, from its ease and simplicity, which render it attainable by any person who can use a pencil. A traveller who wishes to preserve for publication the sketches which he may make in foreign regions, is enabled, by the mere substitution of lithographic chalk for plumbago, to reprint, without further trouble, the actual drawings made in the field, in all their freshness and originality. I may refer, for examples of the Papyrographic art, to the views of Rodriguez, Plates III.* and IV.* of the History of the Dodo, by Dr. Melville and myself, just published; also to the coloured plate of the Dodo, Plate III. of the same work.

" Papyrography seems to be more especially adapted for landscapes and for such other objects as admit of a bold style of drawing. It is not, however, unsuited to other subjects, and the present work contains some examples of its use for the illustration of ornithology. As these are the first experiments of the kind which have been made, they must not be severely criticised, but should be regarded rather as guides to further improvements than as being perfect in themselves.

" The artist, who is disposed to try his hand at Papyrography, should endeavour to give to his drawing the effect of a good lithograph. A lithographic stone, properly prepared, presents a hard level surface, apparently smooth to the touch, but not so smooth as to be *glossy;* for it really consists of innumerable small conical elevations. The crayon used in drawing on the stone touches the summits of these elevations, producing on each a small black dot—the aggregation of which dots causes that fine soft tint, which is characteristic of lithography. Now the surface of *paper* consists, not of *vertical* prominences, but of *horizontal* fibres, which receive the impression of the pencil; and hence a drawing on paper, when examined by a lens, presents an aggregate, not of *dots*, as in a lithograph, but of short irregular *lines*. This discrepancy of surface in the two materials has not yet been overcome by art, though it seems likely, that by pressing damp paper against a grained stone, or by mixing some finely powdered ingredient (not calcarious) with the fibrous material of the paper, a surface may be produced, which shall possess the desired structure. In the meantime, this object may be in some measure attained, by using paper of a hard fine surface, and by stretching it upon a smooth drawing board, a slate, or other level and unyielding material. The best kind of paper for Papyrography seems to be good drawing paper, *smooth*, but not *glossy*, as in the latter case, the chalk rubs over it without producing a clear definite stroke. The 'metallic paper' used for note books also answers exceedingly well; but care must be taken that no calcarious matter is contained in it, as sometimes happens, for in that case the acids used in transferring will cause effervescence and spoil the drawing.

"The best lithographic chalk should be used: it ought to be of considerable hardness, and cut to a fine point. The design may first be sketched with a common pencil, so as to admit of alterations and corrections; for the marks produced with plumbago do not reappear in the anastatic impressions, whereas the lines drawn with lithographic chalk are nearly indelible. In drawing with this chalk, the desired effect should, as far as possible, be produced *at once*, by means of clear well defined strokes; for if the darker parts are much and repeatedly worked over, they are apt, in printing, to produce a *muddy* effect, from the blending together of the minute specks which compose the tint.

"When the drawing is thus prepared, the next step is to get it printed. Now, anastatic printers are very scarce, the art having been only recently introduced into this country, and I may therefore save further trouble, by mentioning the name of Mr. Delamotte, Broad Street, Oxford, as being a skilful printer of Papyrography, and other branches of the anastatic art. The drawings, when sent to the printer, should have a sheet of smooth paper laid over them, to prevent rubbing, and may be packed either flat between two boards, or in a roll of sufficient strength to resist compression."

CALENDAR OF ORNITHOLOGY,

1849.

THE importance of the registration of "*periodic phænomena,*" appertaining to animals and plants, has been long acknowledged and advocated in different periodicals and works, writing of and devoted to natural history; and sundry calendars have been published, which although they contain many points worthy of observation, and were sometimes very amply made out, were not within the reach of all observers, and did not serve as a guide for the uniform registration of the phænomena. In our numerous works relating to the Ornithology of the British Islands, we have many observations and partial lists of the appearance and disappearance of our winter, summer, and occasional visitants. The migrations; flocking and congregating of species after incubation; disappearance of certain species, and their occurrence again after a period of years; the flights and doings of birds have all had some attention given to them. Many of our friends have kept private notes of these occurrences, and we have ourselves observations made over a period of nearly thirty years; but all these are neither kept to any plan, nor accompanied with notes of the temperature, weather, and other circumstances which would have added greatly to their value. They are made in various localities, and in various years and circumstances; and however interesting the task, it would entail much time and labour to reduce them to any available order. If, then, the more important points in the economy of our native species could be registered on some simultaneous and regular plan, interesting information and details might be elicited, and an insight into the laws which regulate their motions and changes, be in a short time obtained.

For the above purpose, a set of Tables have been prepared for the present, the concluding number of the "Contributions for 1848," in such time as will enable the month of January, with the next whole year, to be observed and registered; and accompanying the number, there is a duplicate copy, printed on thin paper and with printed address, which it is requested may be filled up and posted in the first week of January 1850, when, if health and circumstances permit, a summary of the registers and observations returned will be drawn up and printed with an early succeeding number.

For the better filling up of these tables, the following observations may not be inappropriate:—

The tables have been drawn up, as far as possible, to suit any locality; at the same time, many omissions may have been made, which experience in a future year may remedy, and there may be many things inserted which are not applicable, and may appear useless in certain districts. Thus, the return filled up in Orkney, will produce a very different appearance from one made in the middle or southern districts of England.

In these returns, it will be very desirable to know the elevation above the sea as nearly as possible; to have a general register of the temperature and weather, with a short description of the country, the geological nature of the soil, and the character of its vegetation around the localities where the observations are made. In the curious and interesting subject of migration, particular attention is desired. The average temperature at the times of appearance and departure; the direction of the wind; the general character of the weather; the condition and progress of vegetation, should all be observed. It might be supposed, that the arrival of the migratory species in other countries would be influenced more by the climate of that from which they departed, than of that to which they came; that an earlier frost, or mild weather, would have the effect of driving them away or inducing them to prolong their departure; in this country, however, though a cold autumn has an evident effect on the time of the departure of the swallows, and many of our summer birds, a mild spring does not always hasten the departure of the winter visitants. The arrival of some summer birds, as the wheatear, does not seem at all influenced by the mildness or continued severity of the spring here; but we have observed, that mildness and advance of vegetation in this country, does make a difference in the time of appearance of several species, particularly the *Sylviadæ;* and it may be asked, whether the progression of these and others from Southern Europe and Africa is gradual, advancing with the seasons? The laws which regulate the migratory zone of some species, are not probably applicable to such as appear to start at once and fly to their destination. The great mass of swallows depart from this country at once, but the appearance of their numbers is somewhat more gradual. The *Sylviadæ* appear gradually. The migratory thrushes again, come and depart at once. So also do the snipes, woodcocks, and others of the *Scolopacidæ.* If resident on or near the sea-coast, attention should be paid to the ornithology after remarkable storms, particularly during March and April, October and November; and both on the coast and inland, during these months, when migration takes place, and the young are leaving their breeding places and congregating, many rare species have been met with, driven out of their ordinary tract; and vast flocks of species, generally few in number, sometimes in the same way appear, showing the influence, climate or the seasons may have in the distribution of animal life. On the coast, it is also curious to mark the habits of the different sea-fowl previous to, or after the occurrence of a storm, or any marked change in the weather.

Independent of regular migration, by which we mean the arrival of some birds (not at other seasons found in our islands) in spring, for the purpose of incubation, and then remaining with us during the summer months; or the arrival of some birds in late autumn from another county, and remaining during the winter months, apparently to enjoy a larger supply of food and a milder climate, not afforded by their more northern summer quarters; there are large accessions made to the numbers of some permanently resident birds, either altogether from another country, or by a partial migration from one locality to another temporarily more suitable. In many districts, a large addition is received in autumn to the stock of our common thrush and blackbird. So is there also of the common snipe, in many places where it breeds and is permanently resident. They arrive before or about the usual migratory period, and are probably supplied both from abroad and from the more exposed districts of this country. Many of the hawks disappear altogether during spring and summer, seeking the wilder and more unfrequented grounds to breed and rear their young. They reappear again in their usual haunts about the middle or end of September. Along our shores and sea marshes, vast numbers of the plovers, sandpipers, curlews, &c., spend the winter, many of which have merely returned with their young from a more inland breeding resort. The numerous congregations of the young, in autumn, assembling in large flocks together, show another kind of migration, very marked in the black and white wagtail, chaffinch, titmice, lapwing and other plovers, &c. A few species, again, which spend the whole season of incubation in other parts, are seen once or twice yearly for a short period only. The short-eared owl, which in some parts of England is met with regularly about the commencement of the winter migratory period, is in great part only on return from the more northern parts of this country, where it is known to breed. The ring ousel breeds in the alpine districts of England and Scotland, but is only seen upon the English downs, and among the mountain ash trees and cottage gardens in Scotland, for a few days, in going and returning to and from their breeding quarters. So it is with the common dotterel upon our lower moors, and large numbers of our sandpipers, &c., are also only seen for a day or two, in similar circumstances.

The periodical change of colour in the plumage of birds is often very marked; it is incidental in great measure to the season of incubation, previous to which it gradually approaches completion; and, as that important time arrives, it, along with the voice, obtains its fullest vigour, clearness and brilliancy, and sometimes puts on changes of great contrast with the full and usually chaste winter garb. These changes are most characteristic and distinct in the waders, water fowl, and gallinaceous birds, and among these are almost general; in other families, although a greater brilliancy always occurs, it is only in some that the changes are very marked. In some species the change takes place by a loss of some parts of a feather, thereby bringing into view some other portion, and producing a different tint; in others, the colour of the feather entirely changes. These variations take place more or less rapidly with the seasons; but in some instances, the change is effected in a day or two, as in many of the plovers and sandpipers, some ducks, and the head of the black-headed gull, &c., so that exactness in the registration of them should be observed. Some of our summer visitants assume their breeding dress after arrival here, while others are partially changed, as if the operation had commenced and was going on at the same time with the instinctive desire to migrate. And again, on the cessation of the duties of the male, does the brilliancy begin to fade, and the dark or rich contrasted tints to blend into a plumage broken and worn, and then commencing to be renovated by a new moult — all these mutations are worthy to be noted, and can be easily done at the same time that other facts are registered.

It is during this same important period that a great change periodically takes place in the song and voice of birds. Many species sit and utter their call from some selected spot, which is frequented day after day; but others practise peculiar modes of flight, calling as they fly. The pleasing song of our warblers and thrushes, the call of the pigeons and cuckoo, are familiar examples of the first. The towering flight of the greenfinch, and the rise and fall of the pipits singing as they fly; the drumming and flight of the snipe, and the shrill shaking whistle of the curlew, are examples of the combined exercise; but in every species there is a change more or less marked, which will be easily seen and noted by a practised or willing observer.

As previously mentioned, the following tables have been drawn out, as far as possible, for Great Britain generally; at the same time they may be in part inapplicable to several districts, and particularly to the insular localities in the north, from which, however, we would hope for returns; but in these, if there is a scarcity of wood, and a limit in the numbers of the land or arboreal species either migratory or resident, the arrival and departure of the sea-fowl to breed, those that surround the shores in winter, and those that return regularly to roost at night, will be of great interest. We have no account of a rock or island, narrow in extent, minutely drawn in regard to the daily and regular habits of its occupants.

St. Kilda, Ailsa Crag, and even the Bass Rock, would yield an interesting daily journal, and we do hope for some interesting returns from our northern islands.

There is yet another point worthy of attention, that is, the change in the general ornithology of a district or locality which has taken place within a limited period, by an alteration of its physical character; by improvement, cultivation, draining; by planting and the increase of wood; by the rooting out and destruction of copse or natural wood; by the introduction of masses of some particular tree or brushwood. All these matters have a much greater influence on animal life than at first imagined; and in the space of twenty or thirty years, we have seen the character of a locality almost changed, by the forsaking of some species and the coming in of others. These changes go gradually on, but are at last complete, being naturally incidental to the artificial causes above mentioned.

CALENDAR OF ORNITHOLOGY,

1849.

* * *

Calendar of Ornithology for 1849, kept at ____________

in the ____________ of ____________

by ____________

Elevation above the sea about _____ feet.

35-25

JANUARY.

1 Occurrence of rare or occasional visitants from severity of season
2 Species leaving their usual haunts, and resorting to other locali-
3 Maritime species moving to rivers and inland lakes.
4 Habits of species common to district — *a* becoming more domestic
5 Species preparing to incubate — *a* by commencing song or call —
6
7

Date.	PHÆNOMENA.

JANUARY.

or other causes.
ties for food or shelter.

— *b.* congregating in flocks or small groups — *c.* change their usual food.
b. visiting breeding stations, &c.

Temperature.		Wind.	WEATHER AND REMARKS.

FEBRUARY.

1 Species which had changed locality from severity of season or
2 Species preparing to migrate or partially migrating—*a.* congrega-
3 Species preparing to incubate—*a.* by commencing song or call—
4 Species partial migrants returning to summer haunts.
5 Species maritime leaving rivers and inland lakes.
6
7

Date.	PHÆNOMENA.

FEBRUARY.

other causes — *a.* remaining — *b.* removing.
ting — *b* passing at evening or during night.
b. visiting breeding places — *c* roosting at breeding places — *d* pairing.

Temperature.		Winds.	WEATHER AND REMARKS.

MARCH.

1 Winter migrants congregating previous to departure.
2 Winter migrants passing during night or in evening northwards.
3 Winter migrants departed.
4 Species commence incubation — *a.* nest completed — *b.* eggs lay-
5 Partial migrants, temporarily visiting on way to breeding haunts.
6 Summer migrants arrived.
7

Date.	PHÆNOMENA.

MARCH.

ing or laid — *c.* song matured or perfect — *d* plumage changed.

Temperature.		Winds.	WEATHER AND REMARKS.

APRIL.

1 Summer migrants arrived.
2 Winter migrants still remaining.
3 Migrants and partial migrants temporarily visiting on way to
4 Summer plumage — *a.* changing — *b.* matured.
5 Nidification completed — *a.* female sitting — *b.* young hatched —
6
7

Date.	PHÆNOMENA.

breeding haunts.

c. **song, breeding** call or flight matured and perfect.

Temperature.		Winds.	WEATHER AND REMARKS.

MAY.

1 Summer migrants arrived.
2 Nidification — *a.* young hatched and fledged — *b.* left nest —
3
4
5
6
7

Date.	PHÆNOMENA.

MAY.

c. song or breeding call and flight ceasing.

Temperature	Winds.	WEATHER AND REMARKS.

45-35

JUNE.

1 Incubation completed. — *a.* young abroad.
2 Species commence second incubation.
3 Song — breeding call ceased.
4 Moult commencing.
5
6
7

Date.	PHÆNOMENA.

46·36

JUNE.

Temperature.		Winds.	WEATHER AND REMARKS.

47-37

JULY.

1	Second incubation completed.
2	Song — breeding call and flight ceased.
3	Young assembling in groups in gardens, &c.
4	Species that have left their breeding stations.
5	Moult, state of.
6	Young plumage, state of.
7	

Date.	PHÆNOMENA.

JULY.

Temperature.	Winds.	WEATHER AND REMARKS.

49-39

AUGUST.

1 Species congregating and feeding together — *a.* incessores —
2 Partial migrants left breeding haunts.
3 Summer migrants commence to congregate before departure.
4 Moult completed — Winter plumage commencing.
5 Young plumage — state of.
6
7

Date.	PHÆNOMENA.

AUGUST.

b. **rasorial** — *c.* **grallatorial** — *d.* natatorial.

Temperature.		Winds.	WEATHER AND REMARKS.

SEPTEMBER.

1 Summer migrants congregating.
2 Partial migrants, leaving breeding places and congregating else-
3 Summer migrants on passage (making autumnal passage).
4 Summer migrants departed.
5 Breeding plumage gone — state of.
6 Maritime species coming regularly inland and departing daily.
7 Permanent residents congregating.

Date.	PHÆNOMENA.

SEPTEMBER.

where.

Temperature.	Winds.	WEATHER AND REMARKS.

OCTOBER.

1 Species still congregating.
2 Species leaving high grounds for low lands.
3 Partial migrants, temporarily visiting on way from breeding
4 Species resident have accession to numbers by migration or
5 Winter migrants arrived.
6 Maritime species coming inland.
7 Winter plumage commencing.

Date.	PHÆNOMENA.

OCTOBER.

haunts.
partial migration.

Temperature.	Winds.	WEATHER AND REMARKS.

55-45

NOVEMBER.

1 Winter migrants arrived.
2 Species resident have accession to their numbers.
3 Winter migrants passing.
4 Partial migrants — still congregating.
5 Maritime species gone inland.
6 Winter plumage complete.
7

Date.	PHÆNOMENA.

NOVEMBER.

Temperature.		Winds.	WEATHER AND REMARKS.

57-47

DECEMBER.

1 Occurrence of rare or occasional visitants from severity of
2 Species affected by severity of weather — change locality.
3 Maritime species move to rivers and inland lakes.
4 Species passing to feeding grounds during evening or night.
5
6
7

Date.	PHÆNOMENA.

DECEMBER.

season or other causes.

Temperature.		Winds.	WEATHER AND REMARKS.

ILLUSTRATIONS OF ORNITHOLOGY.

TURDUS XANTHOSCELUS, JARDINE.

Turdus xanthoscelus, *Jard.*, Ann. of Nat. Hist. vol. xx. p. 329, 1847.—Birds of Tobago.

THREE specimens of this bird were sent to us by Mr. Kirk, from the Island of Tobago, with the following note attached:—"Remarkably shy; a rich mellow note all this month (April) and until July."—We have been unable to find it described or figured, and indeed have not seen it in any collection. The male is from $\dot{8}$. $\ddot{5}$. to $\dot{9}$. in length; length of the wing to the end of the longest feather, $\dot{4}$. $\ddot{5}$.* The plumage is of a uniform deep black; the feathers on the vent and under tail-covers tipped with greyish-white; the bills and legs bright yellow. The female is above of a dull olive or oil green; beneath paler and more tinted with ochraceous; the chin indistinctly striated with a deeper shade; the under wing-covers and axillary feathers ochraceous; bill and legs brownish-yellow. A young male has many of the feathers tipped with a triangular spot of yellowish-brown, and according to age, will be thus more or less marked.

---

* In our measurements the dots over the figures will indicate, *Feet*, *Inches*, *Tenths*. Thus, 1. $\dot{6}$. $\ddot{5}$.—one foot, six inches, five tenths.

CHRYSOPTILUS KIRKII, MALHERBE.

Chrysoptilus kirkii, *Jard.*, Ann. of Nat. Hist. vol. xx. p. 333, 1847.—
Birds of Tobago.

THIS bird was submitted to the examination of M. Malherbe, while in London, collecting materials for a monograph of the genus *Picus:* he considered it undescribed, and suggested the specific name which we have adopted above. The species most nearly allied to this, is the "*Petit pic de St. Domingue*" of Brisson, on which is founded the *Picus passerinus*, Linn.; but it differs from that as well as from the *P. affinis* of Swain., in the markings of the wings and tail, and in the rump and upper tail-covers being red, whereas in the others these parts are olive or yellowish. Sent by Mr. Kirk from Tobago, the only locality from which we have seen specimens. The following note accompanied them:—" Native. The note of this species is three syllables, sounding like the words, 'Click, click, click,' pronounced very sharply towards the end."

In the male, the crown of the head, with the rump and upper tail-covers are bright vermillion or scarlet; the crown, towards the occiput shades into yellow, and the base of the feathers are greyish-black, and appear occasionally through the scarlet. The back, shoulders, and outer webs of the quills and secondaries are bright brownish-yellow, the small feathers on the shoulders having a pale yellow or reddish spot at the tip, and another about the centre of the shaft; the inner webs of the quills and secondaries are umber brown, barred with yellowish-white; the tail is dark umber brown, the outer feathers indistinctly clouded; the cheeks and auriculars yellowish-brown, streaked along the shafts, and barred with yellowish-white; the remaining under parts barred alternately with dark hair brown and yellowish-white, the pale bars being slightly narrower. The bill, legs, and feet, appear to have been blackish-blue. The female is nearly in all respects similar, except in the scarlet part of the head being yellowish-brown, shading into a narrow nuchal collar of dull yellow; the tips of the feathers, in some lights, appear paler.

The entire length, 6̇. 2̈. to 6̇. 5̈.; of wing to end of longest quill, 3̇. 4̈. to 6̈.

ILLUSTRATIONS OF ORNITHOLOGY.

AT the dispersion last year of Captain W. J. Boys' Ornithological collections, in the sale room of Messrs. Stevens in London, a considerable number of birds were purchased by Mr. Strickland and myself, many of which have proved highly interesting. For the following three descriptions and illustrations of part of that collection, we are indebted to Mr. and Mrs. Strickland. The descriptions will show the interest belonging to some of the species. The illustrations will present the results of the first experiments in Papyrography as applicable to Ornithology.

PERICROCOTUS ERYTHROPYGIUS, JERDON.

Turdus speciosus, var. *B. Lath.*, Gen. Hist., vol. v. p. 97.—Cawnpore Flycatcher, vol. vi. p. 176, pl. 98.*——Muscicapa erythropygia, *Jerd.*, Madras Journ. Lit. and Sc., vol. xi. p. 17.——Pericrocotus erythropygius, *Blyth*, Journ. As. Soc. Beng., vol. xv. p. 310.——No. 216 of Captain Boys' Collection.

"Among the valuable zoological collections lately brought to England by Captain W. J. Boys, the result of many years' residence in the upper Gangetic provinces of India, was an extensive series of birds, amounting to between 500 and 600 species, some of them new and many of them rare. The bulk of this collection has been dispersed by auction; but it may be useful to the scientific student to be informed, that a nearly complete set of these birds has passed into the possession of E. Wilson, Esq., and is destined to be added to the magnificent museum now being formed by his public spirited brother at Philadelphia. This collection is the more important, from the specimens being ticketed with numbers, referring to a valuable mass of MSS. notes, made by Captain Boys, the substance of which will, it is hoped, be ultimately added to our zoological literature.

"The three species which I now propose to illustrate, will serve as samples of the treasures of Captain Boys' collection, and though the species are not new, yet they are very little known, and two of them have never yet been figured. The genus *Pericrocotus*, though somewhat insulated, is undoubtedly a member of the family *Muscicapidæ*, and of the sub-family *Muscicapinæ*, and is but remotely connected with *Campephaginæ*, to which it is commonly referred. The structure of the beak, wings, and feet, is entirely that of the *Muscicapinæ*, and the shafts of the dorsal feathers are never thickened as in the *Campephaginæ*.

" In the male, whole head, chin, hind neck, scapulars, lesser wing-covers, spurious wing, primary-covers, and upper tail-covers, glossy bluish black; secondary covers, and outer half of tertials, white, forming a broad longitudinal stripe on the wing; quills black, paler towards the ends; the fifth and sixth primary, with a basal interior white spot; the three next, and all the secondaries, white at the base, on both webs, for one-third the length; tail black, the five outer pairs of rectrices largely tipped with white; rump vivid orange red; breast pale blood red; belly, vent, and lower wing-covers, white; beak and legs black. Length, $\dot{5}.\ddot{5}$; beak to front, $\ddot{3}\frac{1}{2}$; to gape, $\ddot{6}$; height, $\ddot{1}\frac{1}{2}$; breadth, $\ddot{2}$; wing, $\dot{2}.\ddot{7}$; medial rectrices, $\dot{3}$; external, $\dot{1}.\ddot{8}$; tarsus, $\ddot{6}$; middle toe and claw, $\ddot{5}\frac{1}{2}$; hind ditto, $\ddot{3}\frac{1}{2}$.

" Mr. Jerdon describes the female as ashy brown where the male is black (except the tail, which is deep black); front whitish, rump, edges, and tips of lateral rectrices, and beneath, white, tinged with ashy on breast.

" Form slightly aberrant, the beak being rather shorter and more depressed than in others of the genus. The distribution of light and dark colours is similar to that of the other species, but this one is remarkable from the wing spots and tips of rectrices being pure white, instead of being concolorous with the red rump and breast.

" This species inhabits Cawnpore (Hardwicke); Ghauts near Ajunteh, in South India (Jerdon); Suektusghur, Chunar (Boys)."

MUSCICAPA HEMILEUCURA, Hodgson.

Muscicapa hemileucura, *Hodgs.* in Cat. of Mamm. and Birds presented to Brit. Mus., pp. 91, 155; Ic. ined. Pass., t. ccvi. f. 4.——No. 779 of Mr. Hodgson's Collection.——No. 329 of Captain Boys' Collection.

" This is one of the Blue Flycatchers of which Southern Asia is prolific, and which have been referred by Mr. Blyth, in the Journ. As. Soc. Beng., to several new genera (*Cyanoptila*, *Cyornis*, *Stoparola*, *Muscicapula*, &c.) The bird before us is probably referible to *Muscicapula;* but as I am not yet satisfied as to the generic value of these groups, I retain it for the present under *Muscicapa*. Its form closely agrees with *M. atricapilla* of Europe; but the beak is rather more depressed, and the ridge of the culmen more acute. The rictal bristles are short and feeble, not exceeding 2̈ in length.

" The upper surface and sides of the neck and breast deep indigo blue, lighter on front and sides of crown; a streak of pure white over the eye; remiges and rectrices black, margined externally with blue; basal third of four outer pairs of rectrices white; chin, throat, middle of breast, lower wing-covers, abdomen, and vent, white; beak and legs black.

" Total length, 4̇. 2̈; beak to front 4̈; to gape, 5̈½; height, 1̈; breadth, 2̈; wing, 2̇. 5̈; medial rectrices, 2̇. 1̈; external, 2̇; tarsus, 6̈; hind toe and claw, 4̈.

" *Inhabits* Nepal (Hodgson); Sucktusghur, Chunar (Boys)."

HETERURA SYLVANA, Hodgson.

Heterura sylvana, *Hodgs.*, in Proc. Zool. Soc., pt. 13, p. 33; Ic. ined. Pass., t. cxxiii. f. 1, 2; cxxiv. f. 4.—— *Gray*. Cat. Mamm. and Birds presented to Brit. Mus., p. 108.—— *Blyth*, in Journ. As. Soc., Beng., vol. xiv. p. 556. —— No. 436 of Hodgson's Collection.—— No. 568 of Boys' Collection.

" Mr. Hodgson has been misled by the lengthened tertials and the striated plumage, into placing this bird, at present a unique species, among the Larks, in which arrangement Mr. Blyth follows him. Mr. Gray seems to me equally wide of the truth in placing this bird among the *Emberizinæ*. It appears to be a nearly typical genus of the *Malurinæ*, and consequently belongs to the *Dentirostres*, not the *Conirostres*. The flattened forehead, the compressed emarginate beak, the wiry plumage of the head, the narrow and worn rectrices, the strong feet, lengthened toes, and curved claws, as well as the striated coloration, are precisely what we find in the Malurine genera, *Megalurus*, *Cinclorhamphus*, *Sphenura*, *Sphenæacus*, *Malacocercus*, *Prinia*, &c.; the arched and indurated membrane which overhangs the nostril is repeated in *Sphenæacus*, *Sphenura*, *Malacocercus*, and *Prinia*, and the pointed and lengthened tertials occur in *Megalurus* and *Cinclorhamphus*. The only generic peculiarity of this bird seems to be, that the first four primaries are of equal length, while in the *Malurinæ*, generally, the wing is much rounded by the graduation of the two first quills."

" Whole upper parts pale rufous brown, with a broad longitudinal streak of deep fuscous down the middle of each feather; brow-streak and chin whitish, ear-covers brown; a row of small fuscous streaks, forming a broken line along each side of the chin; lower parts very pale rufous brown, with a medial fuscous streak on each feather; these streaks are linear on the middle of the breast and abdomen, and become rather broader at the sides. Remiges and rectrices fuscous, edged with pale rufescent; the outer pair of rectrices largely, the next slightly, tipped obliquely with dirty white. Upper mandible fuscous, lower and legs pale yellowish."

" Length, 6̇. 3̈; beak to front, 5̈; to gape, 7̈; height, 2̈; breadth, 2̈; wing, 2̇. 9̈; medial rectrices, 2̇. 7̈; external, 2̇. 6̈; tarsus, 9̈; middle toe and claw, 8̈; hind ditto, 7̈."

" Inhabits central region of Nepal (Hodgson); Kumaon (Boys)."

ILLUSTRATIONS OF ORNITHOLOGY.

We are again indebted to Mr. and Mrs. H. E. Strickland and Papyrography, for the following Illustrations and Descriptions:—

SCOPS CRISTATA, Daudin. Var.

Chouette à aigrette blanche, *Levaill.*, Ois. Af. pl. 43.——Strix cristata, *Daud.*, Tr. Orn. v. ii p. 207.—Lath. Ind. Orn. Sup. p. 15.——Lophostrix cristata, *Gray*, List. Brit. Mus. p. 47.——Ephialtes cristatus, *Gray*, Gen. Birds, sp. 17.——Strix superciliosa, *Shaw*, Zool. v. vii. p. 250 (exc. syn.).——Syrnium griseatum, *Less.*, Traité Orn. p. 113.——Lophostrix griseata, *Less.*

The specimen here figured was obligingly presented to me by L. L. Dillwyn, Esq. of Swansea. A ticket attached to the bird gives Coban as its habitat. This bird is identical in form and structure with specimens of *Scops cristata (Lophostrix griseata)* in the British Museum, from Cayenne, and I do not therefore venture to separate it specifically, though it presents considerable diversity in its coloration. The Cayenne specimens have more white on the forehead than the present bird, the rufous on the cheeks extends over the whole of the ear-covers, and the secondaries, as well as the primaries, are marked with pale fulvous bars.

I follow Mr. G. R. Gray in uniting *Lophostrix* to *Scops*, from which it seems to differ only in size. Mr. Gray, however, adopts for this united genus the later name *Ephialtes* in place of *Scops*, because the name *Scops* was originally given by Mœhring, in 1752, to the Numidian Crane. After a mature consideration of this question, which I discussed in 1842 (Ann. Nat. Hist. vol. viii. p. 368), I am still of opinion, that Mœhring's generic names should not be adopted. The binomial system of nomenclature was first introduced by Linnæus in the tenth edition of the *Systema Naturæ*, published in 1758, and that year ought consequently to be taken as the *datum line* beyond which no claim for priority of nomenclature can be entertained. It follows, that if we reject the name of *Scops* in the Mœhringian sense, on the ground of its having been proposed previously to 1752, we must retain the term *Scops*, as proposed by Savigny, in 1809, for the genus of Owls before us.

Crown uniform sepia brown; superciliary streak and anterior feathers of the temporal tufts white, the medial feathers of these tufts are pale fulvous on their inner, and speckled brown and fulvous on their outer webs; the posterior ones are nearly uniform brown. Round the eye is a narrow ring of black feathers, and beneath it a patch of rufous, blending into the deep fuscous of the auricular regions. The bristly feathers of the lores and chin are white at their base and black at their ends; they project one fourth of an inch beyond the tip of the beak. Back, scapulars, tertials, and wing-covers, deep fulvous, densely and minutely speckled with fuscous. The external row of scapulars have a large, rounded, subterminal white spot, and three or four fulvous bars on their outer webs. There is a similar round white spot on the outer webs of five or six of the medial wing-covers. All the remiges fuscous, margined externally with rufous brown, and furnished with three or four broad sub-basal bars of pale fulvous on their inner webs. The third, fourth, and fifth primaries, have each three sub-basal fulvous spots on the outer webs. Lower wing-covers fulvous, barred with fuscous. Under parts pale fulvous, densely speckled with fuscous. The feathers of the throat have an indistinct medial brown streak on each. The breast is considerably darker and more thickly speckled than the rest. On the belly the speckling assumes an indistinctly barred or zigzag appearance. Tarsi feathered to the base of the toes, fulvous, with remote zigzag brown bars. Under tail-covers very pale fulvous, with very remote pale brown bars. Medial rectrices and outer webs of the lateral ones rufous, speckled with fuscous; inner webs of the latter fuscous, with eight or nine broad bars of pale fulvous, confluent at the margin of the feather.

Beak and toes yellowish; claws black. Primaries 2—6 considerably emarginate on the distal half of their outer webs, and primaries 1—5 similarly emarginate on the inner webs. Orifice of ear small (about $\ddot{5}$ in diameter).

Total length, $\dot{14}$; beak to front, $\dot{1}.\ \ddot{2}$; to gape, $\dot{1}.\ \ddot{3}$; wing, $\dot{11}.\ \ddot{5}$; medial rectrices, $\dot{7}.\ \ddot{5}$; external, $\dot{7}.\ \ddot{2}$; tarsus, $\dot{2}$; middle toe and claw, $\dot{1}.\ \ddot{5}$.

TITYRA SURINAMA, LINNÆUS.

SYN.—Muscicapa surinama, Linn. Syst. Nat. p. 325.—Lath. Gen. Hist. v. vi. p. 248.

THIS elegant species of *Tityra* agrees sufficiently well with the short description given by Linnæus of his *Muscicapa surinama*, to justify us in regarding them as identical, at least till the contrary can be proved. The only discrepancy is in the white markings of the scapulars, which are not mentioned by Linnæus; but these are so much overhung and concealed by the black feathers of the upper back, that they might easily escape notice. The particular habitat of the specimen before us is unknown; but it may very probably be from Surinam, a part of South America, whose zoology is much less known than that of the Brazilian territories further south. We are indebted to L. L. Dillwyn, Esq., Swansea, for the use of the specimen figured.

Crown, lores, ear-covers, and whole upper parts glossy blue black; inner margins of scapulars and basal half of dorsal feathers snow white, forming a partially concealed white spot; two outer pair of rectrices narrowly tipped with white. Whole lower parts pure white; beak cinereous; margins of lower mandible whitish; feet cinereous.

Feathers of front and crown somewhat lengthened, and curled downwards at their tips, forming a slight crest. Second primary pointed and suddenly emarginated near the tip, and $\ddot{8}$ shorter than the first; it is also remarkable for a medial longitudinal streak of white on the inner web, which is wanting on all the other remiges.

Total length, $\dot{5}$. $\ddot{5}$; beak to front, $\ddot{5}$; to gape, $\ddot{7}$; breadth, $\ddot{3}$; height, $\ddot{2}$; wing, $\dot{3}$. $\ddot{3}$; medial rectrices, $\dot{2}$. $\ddot{3}$; external, $\dot{2}$; tarsus, $\ddot{7}$.

TIMALIA LEUCOTIS, STRICKLAND.

A TYPICAL *Timalia*, closely allied to *T. nigricollis*, Temm. Pl. Col. 594, fig. 2, and to *T. pectoralis*, Blyth, Journ. As. Soc. Beng. v. xi. p. 783, but distinguished *(inter alia)* by the long superciliary streak, and by the white patch immediately behind the ear orifice. Received from Malacca.

Crown olivaceo-fuscous, passing into olive on the upper back, and into deep rufous on the rump, wings, and upper tail-covers. Feathers of the lores whitish with dark shafts. A pure white superciliary streak, margined on both sides with black, commences above the eye, and passes down the side of the neck, where are also some detached white spots (which, however, may be owing to misplacement of the skin beneath). Sides of the head very dark grey; auricular feather margined below by an elongate white spot. Wing-covers rufo-fuscous, all of them tipped with pale rufous. Remiges rufous externally, fuscous within; and all narrowly tipped with pale rufous. Rectrices rufo-fuscous, darkest towards the ends, and narrowly tipped with rufous. Chin and throat black; breast and upper belly dark cinereous; lower belly, vent, and under tail-covers, rufous. Upper mandible fuscous, lower, whitish; feet, pale brown.

Total length, 5̇. 8̈; beak to front, 6̈½; to gape, 7̈; height, 3̈; breadth, 2̈; wing, 2̇. 5̈; medial rectrices, 2̇. 4̈; external, 2̇; tarsus, 9̈; middle toe and claw, 8̈; hind ditto, 6̈.

63-10

NOTES ON THE STRUCTURE OF BIRDS.

ORTALIDA RUFICAUDA, JARDINE.

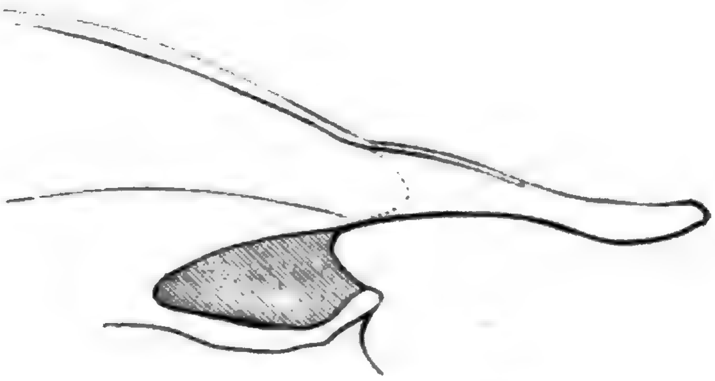
MANY forms of the *Craxidæ*, with others allied to them, present remarkable conformations in the structure of the trachea. That of a duplicature upon the breast, just within the skin, occurs in several of them, as well as in some aquatic birds, some of the waders, and in a few incessorial birds. It is a structure of which we do not perceive the use or intention, and one which would apparently expose a very important organ more readily to injury. Most of the species of *Penelope* and *Ortalida* possess a very loud and shrill voice, often harsh and discordant, and which at times they utter incessantly; some of the notes have a deep or internal sound, as if produced from within, and several have the power of modifying their tones, and of making them appear as if uttered at various distances; a power however which is possessed even in a greater degree by many species that have no winding or analogous structure of the trachea.

In the species before us, for which we are indebted to our Tobago correspondent Mr. Kirk, and which we have ventured elsewhere to characterize as undescribed, a comparison of the structure with that of the trachea of the *Parraka* described and represented by Dr. Latham, and with M. Temminck's plate of the same organ, from his *Penelope Parrakoua*, presents some differences. In both these the trachea is seen with the sternal keel in the centre, the duplicature running down the one side and up the other. In the *Parraka* the duplicature does not descend so far, "descending on the breast more than half way before it makes a turn upwards." It may be observed, that in both these birds (the marail and parraka) the descent is on the left side, the ascent on the right.

In *Ortalida ruficauda*, the trachea, after leaving the furcatorial opening, turns down the breast on the left* side of the sternal keel, runs for its whole length, takes a simple turn at the extremity, and returning parallel with and on the left of the descending branch, follows the œsophagus in its usual course. The duplicature of the trachea is felt from the outside, and on putting aside the feathers, its track can be easily traced. On removing the skin, it is seen covered with a transparent sheath, and in its passage it indents or grooves the muscle of the breast. At the furcatorial opening it is bound over by two muscles, arising from the centre of the os furcatorius, and joining over the trachea with a strong fascia, where there are also transverse fibres. These muscles are seen in our plate, dissected off from each side. At the lower end, where the duplicature takes place, it is bound down by a strong fascia attached to the curve, and giving rise to a muscular stripe, which is inserted into the extremity of the cartilaginous end of the sternum, and keeps the tracheal curve in its place, preventing it from slipping forward. This cartilaginous end, or termination, is much elongated, and serves as an admirable yielding stay.

---

* The bird is supposed to be placed upon its back, with the head from the observer.



Cartilaginous End of Sternum.

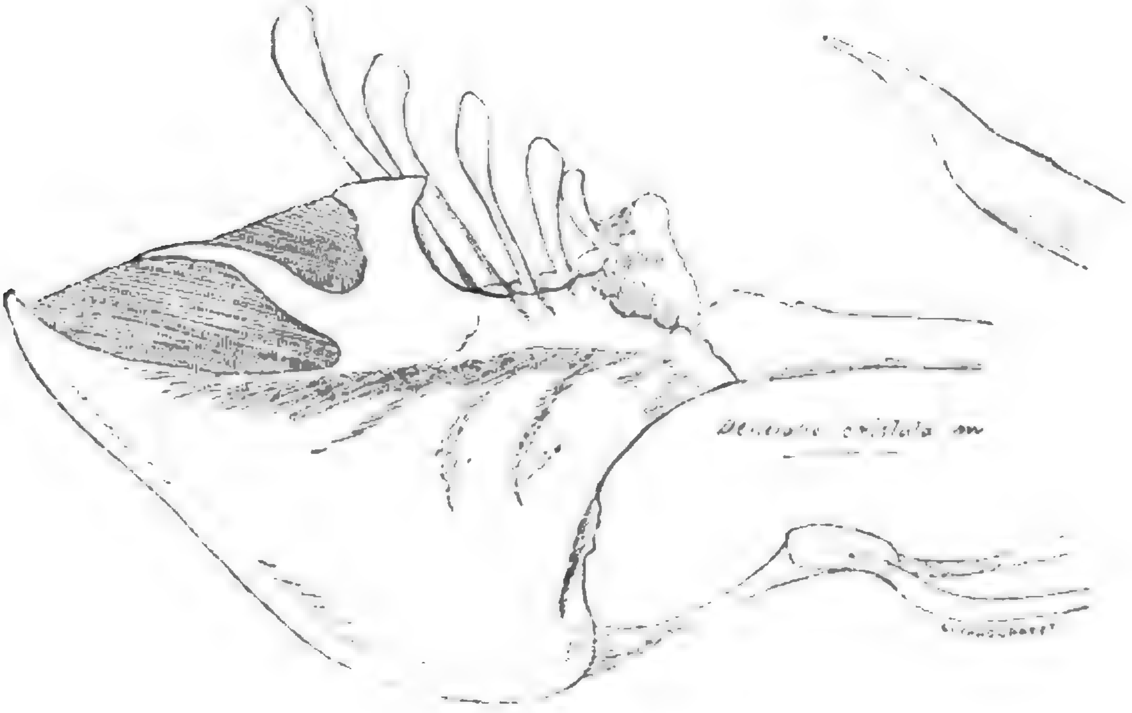
NOTES ON THE STRUCTURE OF BIRDS.

PENELOPE CRISTATA.

In order to compare the structure of some of the Rasorial Birds with that of the Australian *Menura*, we give a figure and some notes to illustrate parts of the intestinal canal of a form belonging to the first, which we consider aberrant. This will be useful to compare with the structure of the more typical species, but especially interesting to contrast with that of a bird nearly equal in size, the habits of which are very little known, but which, looking at its size and shape, plumage, and colonial name, was considered, until very lately at least, as being closely allied to the Gallinaceous Order.

In the intestinal canal of *Penelope cristata*, the œsophagus is very wide and membranous: before entering the body of the bird it exhibits a slight dilatation analogous to a crop *a*, after which it contracts previous to forming the second glandular stomach *b*, whence it opens into a small gizzard or true stomach *c*. The walls of the wide œsophagus and almost membranous crop begin to thicken at the entrance of the glandular stomach, and presents at this part strong plicæ or folds *d*. The walls of the glandular stomach *e*, are of more than usual thickness, and seem composed of a series of glands in its substance, which open interiorly by numerous oval points. The true gizzard is in all its parts small when compared with the size of the bird, or with the typical Rasores; at the same time, it exhibits a very powerful development in its muscular and internal arrangements. Interiorly it enters from the glandular stomach, by a prominent coriaceous constriction *f*, and the inner surface is thickly studded with points and rounded elevations of the same structure, feeling to the touch rough and hard, and the inner lining is distributed in rounded ridges, which will work upon or against each other like rollers, and will act with great power. The muscles exterior to, or working these *g*, are of considerable strength and thickness.

The canal terminates in a wide cloaca. At about $\dot{3}$. $\ddot{5}$ from the extremity, it contracts rather suddenly to less than half its width, giving off at this point two cæca of nearly equal length, but very narrow in diameter, and dilating slightly at the tip, where the main intestine again begins to widen. It will be hereafter represented. The accompanying figure of the sternum is reduced, the greatest length in the skeleton being $\dot{3}.\ \ddot{7}$.



CONTRIBUTIONS TO ORNITHOLOGY.

1849.

CONTRIBUTIONS

TO

ORNITHOLOGY

FOR

1849.

BY

SIR WILLIAM JARDINE, BART.

F. R. S. E., F. L. S., ETC., ETC.

EDINBURGH:
W. H. LIZARS, 3, ST. JAMES' SQUARE.
LONDON: REEVE, BENHAM & REEVE, KING WILLIAM STREET, STRAND.

1849.

PRINTED BY W. H. LIZARS, EDINBURGH.

CONTENTS.

Page

Notes on the Habits of some Birds Collected on the Coast of Western Africa, by C. A. Gordon, M. D., Surgeon, 57th Regiment 1

Systematic Index to a series of Descriptions of Birds, published by C. J. Temminck, in his "Catalogue Systematique du Cabinet D'Ornitholgie, etc.," of the Year 1807 19

Illustrations of Foreign Oology—

Tanagra cana, *Swainson* ... ... 19 - 1

Unpublished Correspondence of Linnæus 27

Continued 37

Ornithology of Quito 41

Continued 66

Oreotrochilus jamesonii, *Jardine*... 67

Notes on the Structure of Birds—

Menura ... ... 48 - 1

On the Form of the Posterior Margin of the Sternum of the Vulturidæ, by *T. C. Eyton*, Esq., F.L.S., &c.... ... ... 132 - 3

Observations on the Systematic Position of the Genus Artamus, Vieillot 50

Monograph of the Falconidæ, Systematically Arranged by Dr. T. T. Kaup... ... ... 68 - 1

Continued... ... ... 96 - 9

Ornithology of the Bermudas ... ... 76 - 1

Illustrations of Ornithology—

Drymoica mentalis, *Fraser* ... ... 14 - 1

Drymoica erythroptera, *Jardine*... ... ... 15 - 2

Hirundo albigularis, *Strickland*... ... ... 17 - 4

Momotus gularis, *Lafresnaye* ... ... 33 - 5

Holocnemis nævius, *Gmelin* ... ... 34 - 6

Ploceus personatus, *Vieillot* ... ... 35 - 7

Phrygilus unicolor, *Tschudi* ... ... 46 - 8

Tænioptera alpina, *Jardine* ... ... 47 - 9

CONTENTS.

Page

ILLUSTRATIONS OF ORNITHOLOGY — *Continued.*

Saxicola opistholeuca, *Strickland* ... ... 60 - 10
Nectarinia natalensis, *Jardine* ... ... 62 - 12
Pionus gulielmi, *Jardine* ... ... 64 - 14
Erythaca flavolivacea, *Hodgson.* Fig. 1. ... ... 88 - 16
Ianthia hyperythra, *Blyth.* Fig. 2. ... ... 89 - 17
Pachycephala macrorhyncha, *Strickland* ... ... 91 - 19
Brachypteryx poliogenis ... ... 93 - 21
Pericrocotus minutus ... ... 94 - 22
Cyanocorax nanus, *Dubus* ... ... 122 - 23
Phylloscopus trivirgatus ... ... 123 - 24
Pycnosphrys grammiceps ... ... 124 - 25
Trichostoma umbratile ... ... 126 - 27
Trichistoma celebense, *Strickland* ... ... 128 - 28
Goldana capistratoides ... ... 128 - 29
Pachycephala orpheus, *Jardine* ... ... 129 - 30

DESCRIPTIONS OF NEW BIRDS BY T. C. EYTON, ESQ.

Nasica bridgesii, *Eyton* 130
Capito sulphureus, *Eyton* 130
Capito capistratus, *Eyton* 131
Anabates flammulatus, *Eyton* 131

NOTICE OF THE NEW OR RARE BIRDS WHICH HAVE OCCURRED IN THE BRITISH ISLANDS IN 1849.

Scolopax brehmi, *Kaup* 134
Uria lacrymans 136
Occasional Visitants to Orkney 136
Breeding Place of *Thalassidroma pelagica* 136
Boschas bimaculata 137
British Distribution of *Motacilla boarula* 137
Upupa epops 138

NOTES

ON

THE HABITS OF SOME BIRDS, COLLECTED ON THE COAST

OF

WESTERN AFRICA.

BY

C. A. GORDON, M. D.,
Surgeon, 57th Regiment.

FROM the dangerous nature of the climate of Western Africa, and the little knowledge we have of the country or its productions beyond a few miles inland, the ornithology of that portion of the continent has hitherto possessed much interest. A few years since, collections of considerable extent, both in numbers and species, were brought to this country from the "Coast," and their examination formed the basis of Mr. Swainson's two volumes of "Birds of Western Africa." The unfortunate "Expedition to the Niger" brought a small collection of birds on its return, a few of which were described by Mr. Fraser and Mr. Strickland, in the proceedings of the Zoological Society;* and one or two were figured by myself and Mr. Selby in our "Illustrations of Ornithology." Last year, by the attention of Maxwell Hyslop, Esq., the exertions of the officers in charge of the Liverpool Palm Oil Ships, procured for us a few specimens from the Old Calabar river; some of which proved new, and were described in the "Annals of Natural History:" and these are all the sources of information, which of late years have occurred to us in respect to the ornithology of this interesting region. A few weeks since, Dr. Gordon, 57th Regiment, permitted us to examine, and kindly presented to us, a part of a collection made by himself during his medical attendance upon his regiment on service at Accra and Cape Coast Castle. One or two birds appeared to differ from any we had before seen from the same districts; and on requesting to be informed of the particulars of their capture, &c., Dr. Gordon was so kind as to forward his notes made upon the spot, and to accede to our desire to publish a selection from them; and we would direct attention to them, as well for their value in adding to the history of species very seldom accessible in their native country, as an example of what we pointed out in our "Hints for Preparing and Transmitting Ornithological Specimens from Foreign Countries," * of how much could be done by many of our officers, or other gentlemen, though employed in active service.

---

* In the Appendix to the "Expedition to the Niger," published in 1848, all the species, amounting to forty-five in number, are described.

The character of the ornithology of the west coast, on both sides of the line, is either peculiar, or partakes more of that of Northern and North-eastern Africa than of the south. Several of the species met with by Rüppell on the north and north-east—such as *Scotornis climaturus*, in Sennaar; *Cypselus ambrosaicus*, in Egypt and Nubia; *Hirundo senegalensis*, &c., Abyssinia; *Malaconotus chrysogaster*, common in Abyssinia; *Ploceus larvatus*, *Euplectes flammiceps*, *Emberiza septemstriata*, in Abyssinia; *Pyrgita simplex*, common in Kordofan, Sennaar, and Abyssinia, &c., with many others, are found also far to the south of the line, and must have a very extensive range; at the same time, a great many of the species found along the western coast are migratory, but information is still wanting to determine their zones or geographical range; and the shorter-winged birds, as the species of *Drymoica*, and many of the *Sylviadæ*; the former, very numerous, seem to be more local, and though migratory, do not take the extensive range the others do.

---

* Contributions to Ornithology for 1848.

The greater portion of the birds to be noticed were procured near Accra, and within a circle of six miles round Cape Coast Castle. Dr. Gordon observes regarding these districts — "The country surrounding Accra is for several miles in every direction open, flat and dry, the greater part covered with rank reedy grass, with occasional patches of low brushwood; a comparatively small portion is under cultivation. At a distance of about six miles to the westward of the town, there is a river of considerable size, and in the immediate vicinity there is a salt water lake, which covers probably ten or twelve square acres, and is the resort of myriads of aquatic birds."

"The country around Cape Coast Castle is undulating, and as it were, dotted over with numbers of coarse granitic hills, of 150 to 200 feet in height, which, with the intervening valleys, are covered with low brushwood, of so dense a nature, as to be in most parts impenetrable to man. A few occasional patches have been cleared for agricultural purposes, but even these (so very rapid is vegetation) would in the course of a couple of seasons, run into their original wild state, were the young bushes, as they grow up, not frequently burnt or cut down."

"*Hirundo senegalensis*—(34*)—Shot, Cape Coast Castle, 5th July. The species is rare in this vicinity; one couple have been observed about the fort during the last month, and a party of six or eight has been occasionally seen in the vicinity during the same period. The two which hovered about the fort, and which appeared to have a nest somewhere about the ramparts, were usually seen during the mornings, before the sun attained its great heat, and in the cool of the evening; but the specimen now before me, was shot in the middle of the day, the sky being at the time rather cloudy, and the temperature as low as 76°. The legs are only covered to the knee, and the narrow black stripe along the edge of the lower mandible, as mentioned by Swainson, is not apparent. In the gizzard was a quantity of the soft remains of insects, as well as the hard parts of tolerably entire small coleoptera. Its flight is rapid; and it has the same capability of turning abruptly which characterizes the entire genus. While flying, either after insects, or two playing together, they keep constantly uttering a very soft and peculiar note, which, though by no means loud, is nevertheless audible at a considerable distance, and serves immediately to detect this species among the crowds of swallows which fill the air during the cool parts of the day. It is most difficult to describe its note, but it may be likened to the word '*ehu*,' pronounced in a soprano-guttural and half-whistling manner. I may remark, that I have never seen this bird except while on the wing, and that it often takes long flights in a circular direction, so that by waiting when it is first seen, a person is pretty certain to have a shot at it as it circles round and round in the same line; the circles which it forms including perhaps upwards of a square mile."

---

* These numbers refer to the numbers attached to the specimens, and correspond with Dr. Gordon's notes.

——————— (39)—"Shot at Cape Coast Castle, 9th July. It was flying over on an open piece of meadow, covered with grass and reeds, in the vicinity of the salt lake. The species does not appear common in this vicinity."

This is *Hirundo (cecropis) melanocrissus*, Rüpp. It was found by Rüppell during summer (July to October) upon the table lands of Dembea, and in the valleys of Sennaar. They had their nests upon the precipices, and in their habits agreed with the European *H. rustica*. The young birds have a delicate brown streak along the shafts of the breast feathers.—*Rüpp. Vög. N. O. Afrika.*

——————— (21)— "A flock was seen on the ground, but they rose before I could get within gunshot; a couple kept flying about, apparently in pursuit of insects, when the specimen was shot ♂. Two have a nest in the walls of the castle, but the species does not appear frequent in this vicinity."

This is *H. (cecropis) striolata*, Rüpp.—Rüppell states, that he saw this swallow abundant in the meadows of the Abyssinian province of Barakit in the month of May, and near Gondar in November.—*Vög. N. O. Afrika.*

——————— (53) — " Shot 12th August. They abound on this part of the coast."

This is *Cypselus ambrosaicus*, Temm. *C. parvus*, Lichten.

——————— (35) —" ♂ shot in Cape Coast Castle, 5th July. This is the most common of the swallows of this part of the coast, the recesses of the ramparts being crowded with their nests, and during the cool of the mornings and evenings, myriads of them soar in the air in pursuit of insects, at one time so high as to be out of gunshot, and on another occasion so low as almost to touch the ground. There was one remarkable peculiarity observable in this species, in the enormously developed sublingual glands, they being so large as completely to fill up the space between the rami of the lower mandible. They had a minutely granulated appearance, as if a quantity of millet seed were adhered together. The layer of subcutaneous fat was enormously developed, reminding one of the Gull genus in this respect, for the same liquid adipose tissue soiled the feathers very considerably notwithstanding the greatest care in skinning it."

This is *Cypselus affinis*.—The occurrence of this bird on the west coast of Africa is exceedingly remarkable, if we are correct in its identity with the species of India. We have compared Dr. Gordon's specimen with a series from various parts of India, and cannot satisfy ourselves as to any distinction either in colour or size; and being so abundant, as described in the above notes, prevents our considering it as a temporary or stray visitant. In India, *C. affinis* is a common though sometimes local species; and according to Blyth, is resident throughout the year. It builds, according to Jerdon, in large pagodas, large old choultries, and other similar buildings; the nests are often thickly crowded together. Captain Tickell remarks, the salivary glands furnish a supply of glutinous substance, used in cementing the materials of the nest.*

" *Scotornis climaturus*, Sw. — (62) — Shot at Cape Coast Castle, 20th September. This beautiful species appeared just to have returned to this part of the country after its migration, which took place after the commencement of the rainy season; when shot, its gizzard contained the remains of apparently large insects, and one very entire part of a beetle. One of the most characteristic marks of the bird, is the elegant white gorget on the breast; the rami of which, commencing at the angle of the lower jaw, become gradually broader and join in the centre, at which part it projects to a point anteriorly, so as, at first sight, to appear almost as a triangular spot. The nostrils project in a very peculiar manner, appearing like small tubercules on the bill."

---

* Blyth, Plan of an Indian Ornithology, *Cypselidæ*, p. 5.

"*Halcyon cyanotis*—(26.50)—Both shot at Cape Coast Castle in June and July. The latter at a salt pond. In this specimen there was a small spot of white, immediately behind the auriculars, at the point where the rufous collar commences to extend from the sides. When shot, it was perched on a small low bush; and like the other members of the family, it did not appear timid. The stomach contained the remains of small fish.

"*Ispida bicincta*—(51)—A male, shot on the salt pond, Cape Coast Castle, July 19. It was first seen playing with two or three others over the water; after a short time they separated, and this one dived, apparently after its prey, and was shot as it rose. I may remark, that I have also seen the *Halcyon cyanotis* dive in this way. It always makes its dart from the branch of some of the small bushes which grow close to the water, and then returns to the place where it had previously been perched, there to await the approach of the minute fish upon which it feeds."

"*Nectarinia splendida*—(61)—This bird was presented to me in a fresh state by a native. Its food was found to consist of ants and other small insects, which these birds no doubt find in the flowers, the nectar of which they have so long been thought only to sip."

——————————(16.59)—♂, shot 11th June, 1847, while perched upon a low bush in one of the open spaces between the low hills that abound in the vicinity of Cape Coast Castle. When shot it was in the act of singing; its note was most melodious and beautiful, more approaching those of our English songsters than any thing I have hitherto heard on the coast. It is to be remarked, however, that this bird had not a prolonged song like those of Britain, but it consisted of a few soft and melodious notes, which it keeps repeating over and over, sometimes for a considerable period together. This is the first specimen of the bird that I have seen, being very shy; but about sunset, its note may be heard among the jungle in every direction, as we walk along the narrow paths in the vicinity. In the fresh state, the iris was of a bright orange colour; the feet and bill leaden blue—with the exception of the upper mandible, along the whole length of which a black stripe extended; the front of the head is chesnut-brown; between the eye and nostril, on each side, is a triangular spot of white, the base of which is posteriorly, the apex directed forward; the auricular feathers are somewhat bristly—the centre rib being white, the rest light rufous; from the gape, a narrow white (pale) stripe extends backwards to behind the ear; a blackish streak runs along the inferior edge of the lower jaw; the chin white. All these various colours become imperceptibly blended posteriorly with the greyish-brown, various shades of which pervade the plumage of this very modestly coloured bird. The feathers of the rump are prolonged to a remarkable degree, and having been erected to some extent when the bird was shot, gave it a very peculiar appearance. The gizzard contained remains of insects, and a large spider in a tolerably entire state. The Fantee name is "Apetapru."

The bird above described appears to be the *Drymoica mentalis*, Frazer, procured at Accra, and described in the proceedings of the Zoological Society for 1843. That description appears to have been taken from an imperfect specimen, the dimensions not being fully given, so that Dr. Gordon's account of its habits, and the accompanying figure, in our "Illustrations," may not be unacceptable to Ornithologists.

"*Budytes* —(71)—Shot at Cape Coast, 6th November. The wagtails, which were seen in considerable numbers in this vicinity during the dry season, disappeared on the setting in of the rains, and did not return until early this month, when after some rain had fallen, a few of these birds were observed about the roads, and often in pairs."

This is either the *B. flava* or *flaveola*, but from the immature state of the specimens, it is difficult to determine.

" *Petrocincla albicapilla*—(2)—Had the stomach filled with sand and the remains of fruits."

" *Platysteira lobata*—(45)—Specimen mutilated ♀, but corresponding with Birds of Western Africa. The wattles in the fresh specimen are bright red (scarlet.)"

" ———————— (30)— ♂, shot while perched on a tall bush, in a field of ground nuts, near Cape Coast Castle. This shrike is exceedingly uncommon in this vicinity, having only seen two or three specimens. They are so shy as to render it almost impossible to approach within gunshot. The markings of the bird give it a very elegant appearance when flying; the white on the scapulars, and on the proximal half of the primary quills and rump, elegantly contrasting with the clear black of the fore-part of the back, neck, and head."

The nearest description we can find of this species is that of *Collurio (Lanius) smithii*, of Fraser (Proceed. Zool. Soc. for 1843, p. 16), which agrees with it exactly in characters and size, except that no mention is made of the white rump conspicuous in our specimen. Mr. Fraser's bird was also procured at Cape Coast.

" *Malaconotus barbarus*—(31)—Shot at Cape Coast Castle, 2d July, on a low shrub in a cultivated field. It is one of the handsomest birds found in this vicinity. It seldom leaves the dense 'bush,' and is rarely to be seen for more than an instant as it darts across the narrow paths through it. It is very timid, flying into the densest part of the forest on the approach of any person, and never showing itself a second time in the same place when once disturbed."

" *Malaconotus chrysogaster*, Sw.—(68)—Shot near Cape Coast Castle, 18th October. It appears to be a rare bird on this part of the 'Coast,' having never seen a specimen except the present one. It was shot in the dense bush on the top of a somewhat tall tree. The feet are of a pale blue slate colour."

" *Corvus leuconotus*, Sw.—(75)—Shot at Cape Coast Castle, 20th November. This bird is so remarkably wary in this vicinity, that it is almost impossible to get a shot at it. But at Accra, where they occur in very great numbers, and are probably but little annoyed, they are tolerably tame. They are generally seen perched on a tall tree in the distance, or flying across the impenetrable jungle. The note, although resembling that of the English rook, is yet different, being a deeper hoarse scream."

"*Ploceus textor*—(13)—Shot at Cape Coast Castle, 5th June, 1847, while perched on a bombax tree, from the boughs of which hung several scores of bottle nests. Irides of a bright orange red. A similar species, which is very common in India during the grain season, is occasionally taught tricks by the natives, such as loading and firing a small cannon, &c. I have myself witnessed a most extraordinary arrangement in the nest of this bird; on one side of the interior, a piece of clay may be seen adherent to the nest, into this the bird, during the season of incubation, places a glow-worm or fire-fly during the night."

"*Euplectus ignicolor*—(6 . 17)—Fantee name *Akhim butukra.* —Cape Coast Castle, 2d June, 1847. Have made their appearance since the commencement of the rainy season. Are seen in great abundance in this vicinity, in small flocks of males and females. Note, a short sharp chirp."

"*Euplectes flammiceps*—(15)—Cape Coast Castle, 1st June, 1847. (Dr. Gordon criticises the figure in the 'Birds of Western Africa,' as scarcely doing justice to the elegant and graceful form of this bird.) They are very familiar, and hop from branch to branch, within a few yards of the person who visits their retreats."

"*Spermophaga cyanorhynchus*, Sw.—(69)—Shot 18th October. Birds of this species seem to have only lately made their appearance in this vicinity, that is, within the last few weeks, during which time the various species of *ploceus*, but especially the red and black-headed, have been gradually disappearing, and now there are but a few to be seen about the old Indian corn fields."

"*Crithagra chrysopogon* ♀—(29)—Shot 30th June, at Cape

Coast Castle; and as it is the only specimen of the bird I have hitherto met, I am inclined to consider it rare in this vicinity."

" *Pyrgita simplex*—(12.36)—Cape Coast Castle, 7th July, 1847, very common. The only external character which appears to distinguish the male of this bird from the female, is, that upon the outer part of the lesser wing-covers of the former, there are two or three feathers tipped with white, so that when resting on the ground, a small white spot is apparent upon each shoulder. In the female there is no such spot. Sparrows would appear to be much less impertinent on this coast than they are proverbial for being in all other parts. They do occur in the streets, although not in any great abundance, nor do they allow the near approach of persons. It is in the lanes, about the outskirts of the town, that they are most frequent, and there they keep hopping on the road before whoever disturbs them; but seldom allows one to approach nearer than a distance of twenty or twenty-five yards."

" *Vidua erythroryncha*—(27.28)—'Fetish bird' of the Fantees. Shot 30th June, 1847, in a piece of ground covered with grasses, and interspersed with a few low shrubs, chiefly acaciæ, in the immediate vicinity of a salt water lake, situate a little to the westward of the 'Castle.' Both are males; and these elegant little birds were seen, among a considerable flock of others, which appeared to be females, as they kept flying with a peculiar jumping flight, at one time after one and then after another. When about to perch, they hover for a few seconds over the tree or bush; and being exceedingly tame, allowed persons to approach very close. Their crops were filled with small seeds like millet."

" *Vidua chrysonotus*—(7.18)—The bird appears rather rare in the vicinity of Cape Coast Castle; its note is a sharp short chirp. From what I have seen of this bird, both flying and perched, I am not aware that it spreads out its tail in the form of a boat, or elevates it as Mr. Swainson suspects."

" *Macronyx flavigaster*—(55)—This is the first specimen of the bird I have met with here, we may therefore consider it somewhat uncommon. I had not an opportunity of hearing the note of this bird. It was shot while flying with a short jerking flight over an open plain, on which reeds and grasses grew thickly, to the height of about a foot and a half. Its gizzard was filled with remains of grasses, and insects, apparently beetles."

"*Corythaix senegalensis*—(56)—Shot in the dense forest in the vicinity of Cape Coast Castle, September 9. This bird is very frequently seen on this part of the Gold Coast; but being very wary, and seldom leaving the highest trees, it is extremely difficult to shoot. The note is a very hoarse kind of crow.

"The bill, in a fresh state, is all of a pale orange colour; the iris light chestnut. The arrangement of the feathers in front of the eye is peculiar, pointing upwards, covering the nostrils, and joining at the forehead, conceals about the proximal half of the upper mandible. The nostrils are oval, large, and open, but covered by the feathers.

"This bird seems to approach very closely that which Swainson alludes to (p. 226) as described by Edwards, except that in this the crest is of a uniform grass green colour, whereas the one figured by Edwards is described as tipped with red. The white streak, which Mr. Swainson states as not existing in any of his specimens, is very distinct under the eye of mine, so is also the glossy black streak, or rather spot, which occupies the anterior and lower third of the orbit, and separates this white streak from the one which extends upwards and backwards to about a third the extent of the upper eyelid. The arrangement of the legs and feet are peculiar. The whole length of the posterior *surface* of the tarsus is rough, as if covered with small warty excrescences. The outer toe is versatile, as I have myself witnessed in a bird of this species, which was for some time kept in a cage. Although these birds are doubtless exceedingly beautiful, I cannot agree with the description given by Le Vaillant:—When flying in the rays of a powerful sun, their various colours contrast beautifully, but their flight is rather clumsy than elegant; and when perched on a tree, they always seem as if *cowering* from a person's view."

"*Centropus senegalensis*—(58)—Called by the Fantees '*Berakhoo*,' and known among the residents on the gold coast as the 'Scotchman,' probably on account of its being such a remarkably cautious bird; always inhabiting the very thickest of the bush, so that it is very difficult to be got at. It is, without exception, the most offensive bird that I have ever met. It is infested with myriads of insects, in form and appearance precisely similar to the ticks found upon dogs—and having been left in my quarters for a night previous to being skinned, it rendered it so offensive, that it had to be regularly fumigated before the stench could be got rid of. Iris, crimson.

"*Leptosomus erythropterus*, Sw.—(81)—This bird is usually seen sitting on the ground, and when disturbed, its flight is low and very heavy."

"*Vinago nudirostris*—(38)—♂, shot at Cape Coast Castle, 9th July. In its crop were a few soft berries. The only addition that I can make to the description of this bird, given in the 'Birds of Western Africa,' is to state, that the colour of the feet, in the fresh specimen, is very light gilvous (sulphur colour); the iris consists of two differently coloured rings—the inner of a yellow or saffron colour, the outer beautifully pink, both of the same breadth; the basal half of the bill is very bright red, and the feathers arise from its base in such an abrupt manner, that they appear as if some of the smaller ones had been rubbed off. The most minute examination of the bird, when first shot, however, did not detect any remains of such an accident. This bird does not appear common, at least at this season."

Turtur semitorquatus—(46)—Shot, Cape Coast Castle, 10th July. Was sitting with a large flock in a newly cultivated field. The crop, full of grain and berries; bill, black; the orbits naked, of a dull red; the feet dull red.

The specimen differs, in many respects, from Swainson's description of *T. semitorquatus*, although in the greater number of characters they are precisely similar. In this, the front, instead of "vinaceous," is very light grey; the chin is whitish—but the vinaceous, on the under parts, extends to the belly, and blends with the grey of the vent and under tail-feathers; the wing-covers are the same "drab-brown" as the outer scapulars (but have no white edges), with a slight violet gloss upon the shoulders; the "outer toe" longer than the "inner;" the basal, two-thirds instead of "half" of the four outside pairs of tail-feathers deep black; the tips white, the two central are entirely of the same drab-brown as the greater part of the back; the bill is "black," but the feet "dull red;" the orbits are "naked," and, like the feet, of a dull red colour; on the outer edge of the primaries a very narrow line of white, gradually becoming narrower and less distinct, until it is lost in the secondaries. After all, this would appear to be the female of Swainson's *Turtur erythrophrys*, as the marked difference in the relative length of the lateral toes distinguishes it entirely from the one just described; yet, in other respects, there is such a marked resemblance, that the little differences would be easily accounted for by mere sexual peculiarities. The two would be best distinguished by comparison.

A SYSTEMATIC INDEX

TO A

SERIES OF DESCRIPTIONS OF BIRDS, PUBLISHED BY C. J. TEMMINCK,

IN HIS

"CATALOGUE SYSTÉMATIQUE DU CABINET D'ORNITHOLOGIE, ETC.,"
OF THE YEAR 1807.

CATALOGUE Systématique du Cabinet d'Ornithologie, et de la Collection de Quadrumanes, de C. J. Temminck, 8vo. Amsterdam, 1807, is the original title to the above little tract, which is very rare—and the only copy of it which I have ever seen belongs to Dr. Lichtenstein, at Berlin. Many of the descriptions of new species, which it contains, are long prior in point of date to those given by later authors; but as M. Temminck followed the defective practice of the Buffonian school, in only giving *vernacular* names to the species, the priority of their systematic designations belongs to others. The descriptions, however, are valuable from their accuracy; and we are now indebted to Dr. Hartlaub of Bremen, for the following "*Concordance*," in which this early work of the venerable Temminck is adapted to the present state of science.

Dr. Hartlaub states, that many of Vieillot's descriptions were either copied from this pamphlet, or founded on an examination of the same specimens; and that most of the South African birds, in the collection, had been brought home by Le Vaillant.—*H. E. Strickland.*

A SYSTEMATIC INDEX

NAMES GIVEN BY TEMMINCK.

1. Le petit Vautour noir à caleson blanc, p. 199. Amér.
2. Le Faucon gris rayé, p. 199. Guiana
3. Le Rollier à calotte aigue marin, p. 200. Otaheite
4. Le Carouge gorge rousse, p. 200. Amér. mérid.
5. Le Cassique cuivré, ♂ ♀, p. 200. Louisiana
6. Le Troupiale masque noir, ♂ ♀, p. 201. Pays de Namaquoi
7. Le Cassique violet à fraise, p. 201. Amér. sept.
8. Le Loriot bicolor, p. 202. Sénégal
9. Le Loriot grivelé, p. 202. Java
10. Le Loriot masque noir, p. 203, ♂ ♀. Afrique mérid.
11. Le petit Mainate verd à capuchon noir, p. 204. Nouvelle Hollande
12. Le Mainate verd à gorge et ventre tachetés, p. 204, ♂ ♀. Nouv. Hollande
13. Le Martin à joues rouges, p. 201. Bengale
14. Grand Couroucou à ventre blanc, p. 205. Surinam
15. Petit Couroucou à ventre rouge, p. 206. Guiana
16. Le Couroucou narina, p. 201. Afrique mérid.
17. Le Coucou gris bronzé, p. 207. Côte d'Angôle
18. Le Coucou roux à bec rouge, p. 208. Java
19. Le Coucal géant, ib. Nouvelle Zélande
20. Le Malcoha rouverdin, p. 209. Ceylan
21. Le très petit Coucou doré, p. 210, ♂. Java
22. Le Coucou à queue frangée, p. 210. Nouvelle Hollande
23. Le Pic à ventre ensanglanté, p. 210. La Trinité
24. Le Pic brun rayé de noir, p. 210. Iles de l'Océan Indien
25. Le Pic tacheté à dos rouge, p. 211. Java
26. Le Pic barbaresque, p. 211. Barbarie
27. Le petit Pic rougeatre, p. 212. Ceylan
28. Le petit Pic à baguettes d'or, p. 212. Afrique
29. Le Pic à moustaches noires, p. 213. Pays des Caffres
30. Le petit Martin-pécheur aigue marin, p. 213. Java
31. Le Martin-chasseur, p. 214. Pays des Caffres
32. Le Martin-pécheur à ventre sablé, p. 215. Côte d'Angóle
33. Le Martin-pécheur à plastron, p. 215. Amérique
34. Le petit Guepier à hausse-col noir, p. 216. Sénégal
35. Le Promefil, p. 216. Nouvelle Guinée.
36. Le Promerops namaquoi, p. 217
37. Le Souimanga à bec droit, p. 218. Pays des Caffres
38. Le Souimanga violet à ventre jaune, p. 218. Desert de Zahara
39. Le Souimanga ventre aurore, p. 218. Iles de l'Océan Pacif.
40. Le Souimanga jacinthe, p. 219. Iles de l'Océan Pacif.

41. Le Souimanga à flancs souci, p. 219. Pays des gr. Namaquois
42. Le Héorotaire gris-graculé, p. 220. Nouvelle Zélande
43. Le Héorotaire velouté, p. 220. Nouvelle Galle mérid.

TO TEMMINCK'S DESCRIPTIONS OF BIRDS.

MODERN SCIENTIFIC NAMES.

1. *Ibicter aquilinus*, (Gm.) I. leucogaster, Vieill.
2. *Asturina nitida*, (Lath.) Asturina cinerea, Vieill.
3. *Coracias temminckii*, Vieill.
4. *Agelaius frontalis*, Vieill.
5. *Quiscalus versicolor*, Vieill.
6. *Ploceus velatus*, Vieill. Encycl. p. 701.
7. *Quiscalus major*, Vieill.
8. *Oriolus bicolor*, Temm.
9. *Oriolus chinensis*, Gm. av. jun.
10. *Oriolus larvatus*, Licht.
11. *Sphecotheres viridis*, Vieill.
12. *Ptilonorhynchus smithii*, Vig.
13. *Pastor temporalis*, Temm.
14. *Trogon leverianus*, Vieill. Enc. 1360. T. albiventer, Voigt.
15. *Trogon collaris*, Vieill.
16. *Trogon narina*, Temm.
17. *Zanclostomus æratus* (Vieill.) Enc. 1333. Z. flavirostris, Swains.
18. *Zanclostomus melanogaster*, Vieill. Ib. 1337. Melias corallirhynchus, Less.
19. *Centropus giganteus*, Vieill.
20. *Phœnicophaus viridis*, V. P. melanognathus, Horsf.
21. *Chalcites plagosus*, Lath. av. jun.
22. *Cuculus prionurus*, Illig. Licht. Doubl. Catal.
23. *Picus rubidicollis*, Vieill.
24. *Picus brachyurus*, Vieill. Wagl. spec. 71.
25. *Picus erythronotos*, Vieill. Enc. p. 1306. P. neglectus, Wagl.
26. Quid ?
27. *Picus rubescens*, Vieill. Enc. 1317. But not the *miniatus* of Wagler.
28. *Picus fulviscapus*, Ill. P. fuscescens, Vieill.
29. *Picus biarmicus*, Cuv. P. mystaceus, Vieill.
30. *Alcedo beryllina*, Vieill. A. biru, Horsf.
31. *Halcyon fuscicapilla*, Lafresn. Mag. de Zool.
32. *Halcyon cyanoleuca*, Vieill. Enc. p. 395.
33. *Ceryle amazona*, (Lath.) A rubescens, Vieill.
34. *Merops erythropterus*, Lath. M. minutus, Vieill.
35. *Ptiloris magnificus*, (Vieill.)
36. *Promerops cyanomelas*, Vieill.
37. *Nectarinia elegans*, Vieill.
38. *Anthreptes javanica*, (Horsf.)
39. *Nectarinia subflava*, Vieill. Enc. 598.
40. *Nectarinia cuprea*, Shaw. Cinnyris nibarus, Vieill. and C. tricolor, Vieill. Enc. 597, 598.
41. *Nectarinia fusca*, Vieill. Vaill. Afr. pl. 296.
42. *Manorhina melanocephala*, (Lath.)
43. *Manorhina viridis*, Vieill. M. melanophrys, Lath.

NAMES GIVEN BY TEMMINCK.

44. Le Héorotaire albicapil, p. 221. Nouvelle Hollande
45. L'Oiseau-mouche verd de mer, p. 221. Amér.
46. Le Merle guttural, p. 222. Nouvelle Zélande ♂ ♀
47. Le Merle grimpeur, ♂ ♀, p. 223. Nouvelle Galle mérid.
48. Le Merle à croissants, p. 224. Nouvelle Zélande
49. Le grand Fourmilier rayé, p. 224. Guiane
50. Le Fourmilier acutipenne, p. 225. Guiane
51. Le Fourmilier gris-noir, p. 225, ♂. Amérique
52. Le Fourmilier à calotte noir, p. 225. Guiane
53. Le Fourmilier sourci-blanc, p. 226. Guiane
54. Le très petit Fourmilier grivelé, p. 226. Guiane
55. Le Cotinga flarou, p. 226. Guiane
56. Le Cotinga à flancs violets, p. 227. Pérou
57. Le Coliou joue-nue, p. 227. Pays des Caffres
58. Le Coliou à gorge noire, p. 228. Malimbe
59. Le Gros-bec mangeur de riz ou le Padda gris, p. 228. Isle de France
60. Le Gros-bec à ventre perlé, p. 229. Côte d'Angôle
61. Le Gros-bec col coupé, p. 228. Pays des Caffres
62. Le Cardinalin, p. 229. Sénégal
63. Le petit Gros-bec à couronne et plastron couleur de feu, p. 229. Java
64. Le Verdier à ventre jaune, p. 230. Afrique mérid.
65. Le Bouvreuil gris, p, 232. Cap de bonne Espérance
66. L'Angroyan gris, p. 232. Nouvelle Galle mérid.
67. L'Angroyan longibande, p. 232. Iles de l'Océan Austral.
68. Le Republicain namaquois, p. 233.
69. Le Republicain à ventre et gorge jaunes, p. 234. Angôle
70. Le Republicain à capuchon ecarlate, p. 234. Congo
71. Le Bruant à collier, p. 235. Java.
72. L'Archevèque à epaulettes bleues, p. 235. Pérou
73. Le Tangara negrin, ♂ ♀, p. 236. Guiane
74. Le Tangara bleu à ventre jaune, p. 236. Amérique
75. Le Tangara isabelle, ♂ ♀, p. 237. Guiana
76. Le Capi à croupion rouge, p. 237. Pays des Caffres
77. Le Capi à fraise jaune, p. 238. Iles de l'Océan Pacif.
78. Le Capi à gorge et sourcils orangés, ♂ ♀, p. 238. La Trinité
79. Le Bengali noir à epaulettes blanches, p. 239. Sénégal
80. Le Gobe-mouche à sourcils blancs, p. 240. Iles de l'Océan Austral.
81. L'Echenilleur long-bec, p. 240. Bengale
82. Le Gobe-mouche bicolor, p. 241. Nouvelle Galle mérid.
83. Le Goube-mouche militaire, p. 241. Nouvelle Zélande
84. Le Tyranain, p. 241. Cayenne
85. L'Alouette striée, p. 242. Nouvelle Galle mérid.
86. Le Figuier gris-albin, p. 243. Isle de France
87. Le Figuier cercle-en-queue, p. 243. Guiane

MODERN SCIENTIFIC NAMES.

44. *Melithreptus lunulatus*, Sh. M. albicapillus, V. Enc. 606.
45. *Trochilus albiventris*, Less.?
46. *Cinclosoma punctatum*, (Lath.)
47. *Orthonyx spinicauda*, Temm.
48. *Myrmeciza domicella*, (Licht.)
49. Incomplete description?
50. *Tinactor caudacutus*, (Vieill.) T. fuscus, Wied.
51. *Formicivora atricapilla*, Vieill. Enc. 683.
52. *Thamnophilus cristatus*, Pr. Wied.?
53. *Formicivora leucophrys*, Vieill. M. superciliaris, Licht.
54. *Formicivora melanoleuca*, Vieill. Enc. 683.
55. *Lipangus hypopyrrhus*, (Vieill.) Enc. 761. Muscicapa sibilatrix, Pr. Wied.
56. *Iodopleura fusca*, (Vieill.) Enc. 761. I. laplacei, Eyd. G.
57. *Colius guiriva*, Le Vaill. C. erythromelon, Vieill.
58. *Colius nigricollis*, Vieill. Enc. 865.
59. *Spermophaga oryzivora*, (Gm.) Pale variety.
60. *Spermophaga guttata*, Vieill. Enc. 1007.
61. *Amadina fasciata*, (Gm.)
62. *Euplectes ignicolor*, Vieill.
63. *Fringilla aurea*, Vieill. Enc. 962. (Quid?)
64. *Sycobius gregalis*, (Licht.) Ploceus bicolor, Vieill. Enc. 698.
65. Quid?
66. *Artamus cinereus*, Vieill.
67. *Artamus albovittatus* Cuv. A. lineatus, Vieill.
68. *Philetærus socius*, (Lath.) P. lepidus, Sm.
69. *Ploceus jonquillaceus*, Vieill. Enc. 700.
70. *Sycobius rubricollis*, Sw. S. cristatus, Vieill. ♀
71. *Euplectes melanogaster*, (Lath.)?
72. *Tanagra cyanoptera*, Vieill. T. cana, Swains.
73. *Tachyphonus niger*, Vieill. Enc. 794.
74. *Pyranga cyanictera*, Vieill. Enc. 798.
75. Quid?
76. *Fringilla erythronotos*, Vieill. Enc. 979.
77. *Fringilla ornata*, Vieill. Enc. 979.
78. *Spermophila olivacea*, (auct.) Emberiza, Lath.
79. Quid? Vieill. Ois. chant. pl. 38.
80. *Rhipidura tricolor*, (Vieill.) Enc. 822. R. motacilloides, Vig. H.?
81. *Oreocincla varia*, (Pall.) Blyth, Ann. and Mag. 75, p. 98.
82. *Campephaga humeralis*, Gould.
83. *Monarcha carinata*, Temm. Musc. melanopsis, Vieill. Enc. 826.
84. *Tyrannulus elatus*, Vieill.
85. Quid?
86. *Zosterops* (?) *borbonicus*, (auct.) Enc. 460.
87. *Myrmothera surinamensis*, (Lath.) Gen. Hist. iv. pl. 62.

NAMES GIVEN BY TEMMINCK.

88. Le Figuier lancifer, p. 244. Nouvelle Galle mérid. ... ...

89. Le Manakin cotimanac, p. 245. Guiane ... ...
90. L'Hirondelle verte, p. 245. Iles Sandwich ... ...
91. Le moyen Engoulevent grivelé, p. 246. Guiane ... ...
92. L'Engoulevent pygmé, p. 247. Guiane ... ...
93. Le Ramier bleu à nuque écaillée, p. 248. La Trinité ... ...
94. Le Ramier éclatant, p. 248. Iles des Amis ... ...
95. Le Pigeon à ceinturon noir, p. 249. Iles de l'Océan Indien ... ...
96. Le Ramier rameron, p. 249. Pays d'Auteniquoi ... ...
97. Le Pigeon à front nu, p. 250. Côte d'Angôle ... ...
98. La Tourterelle veloutée, p. 251. Iles Sandwich... ... ...
99. La Tourterelle à calotte violette, p. 252. Iles Sandwich ... ...
100. Le Pigeon cuivreux, p. 252. Tonga Tabu ... ...
101. La Tourterelle verte à plastron rouge, p. 253. Java... ... ...
102. La Tourterelle à ventre blanc, p. 253. Pays d'Auteniquoi ... ...
103. La Tourterelle pourprée, p. 254. Pays d'Auteniquoi... ... ...
104. Le Pigeon ramier ardoisé, p. 254. Otaheite ... ...
105. Le Heron bullaragang, p. 255. Nouvelle Hollande ... ...
106. Le petit Blonjios manteau noir, p. 255. Caienne ... ...
107. Le Crabier noir à cou tacheté, p. 256. Bengale ... ...
108. Le Courlis gris à ailes cuivrées, p. 257. Pays d'Auteniquoi ... ...
109. Le Courlis, p. 258. Sénégal ... ...
110. Le Maubéche à poitrine rousse, p. 259. Guiane... ... ...
111. Le Vanneau nain, p. 259. Nouvelle Galle mérid. ... ...
112. Le grand Vanneau armé à lambeaux rouges, p. 260. Ternate ...
113. Le Vanneau echassier, p. 261. Égypte ... ...
114. Le Pluvier à poitrine rousse, p. 262. Pays d'Auteniquoi... ... ...
115. Le petit Pluvier à double collier, p. 263. Pays des Namaquois ...
116. Le Coure-vite à double collier, p. 263. Pays des Namaquois ... ...
117. Le Rale d'eau à gorge blanche, p. 264. Cap de bonne Espérance...
118. Le Rale d'eau de St. Dominique, p. 264. ... ...
119. Le grand Jacana verd à crête, p. 265. Ceylan ... ...
120. La Poule d'eau noirette, p. 266. Côte d'Angôle... ... ...
121. La Marouette piquetée, ♂ ♀, p. 266. Pays d'Auteniquoi ... ...
122. Le Castagneux à cou roux, p. 267. Pays d'Auteniquoi ... ...
123. L'Anhinga à cou isabelle, p. 268. Pays d'Auteniquoi ... ...

TO TEMMINCK'S DESCRIPTIONS OF BIRDS.

MODERN SCIENTIFIC NAMES.

88. *Chthonicola minima*, Vig. H. (Gould.) Sylvia nitida, Vieill. Enc. 454; and S. pyrrhophrys. V. ib. 464.
89. *Pachyrhynchus splendidus*, Pr. Wied. P. Spixii, Swains.
90. *Procnias ventralis*, Illig. ♀.
91. *Caprimulgus leucopterus*. Pr. Wied, Beitr. iii. p. 311.
92. Quid?
93. *Columba lamprauchen*, Wagl. spec. 46.
94. *Carpophaga spadicea*, (Lath.) Wagl. spec. 12.
95. *Ptilonopus cinctus*, (Temm.) Wagl. spec. 19.
96. *Columba arquatrix*, Temm. Wagl. spec. 50.
97. *Treron calva*, (Temm.) Wagl. spec. 3.
98. *Ptilonopus holosericeus*, (Temm.) Wagl. spec. 25.
99. *Ptilinopus superbus*, Temm. Wagl. spec. 32.
100. *Carpophaga cristata*, (Temm.) Wagl. spec. 14.
101. *Ptilonopus jambu*, (Gm.) Wagl. spec. 28.
102. *Peristera tympanistria*, (Temm.) Wagl. spec. 102.
103. *Peristera larvata*, (Temm.) Wagl. spec. 67.
104. *Phaps picata*, (Lath.) Col. armillaris, Temm. Wagl. spec. 42.
105. *Ardea pacifica*, Lath. Wagl. spec. 5.
106. *Ardetta exilis*, (auct.) Wagl. spec. 43. [Very small specimen.]
107. *Ardetta nigra*, (Vieill.) Enc. 1118.
108. *Ibis hagedasch*, (Sparrm.)
109. *Schœniclus subarquatus*, (Gm.)
110. *Tringa canutus*, L. ptilos. aestiv. Pr. Wied, Beitr. iv. p. 735.
111. *Erythrogonys cinctus*, Gould.
112. *Lobivanellus gallinaceus*, Temm.
113. *Vanellus leucurus*, Licht. Eversm. Bokh., p. 137. V. grallarius, Less.
114. *Charadrius pecuarius*, Temm. Pl. col. 183.
115. *Charadrius tricollaris*, Vieill. C. bitorquatus, Licht.
116. *Cursorius africanus*, Temm. Catal. Syst. p. 175. C. bicinctus, Temm.
117. *Rallus fuscescens*, Vieill. Enc. 1065.
118. *Ortygometra olivacea*, (Vieill.) Enc. 1068. Crex gularis, Jard.
119. *Parra indica*, Lath. P. ænea, Cüv.
120. *Ortygometra nigra*, (Gm.) G. flavirostra, Sw.
121. *Ortygometra rufa*, Vieill. Enc. 1070. Crex ruficollis, J. E. Gray.
122. *Podiceps minor*, Lath.
123. *Plotus levaillanti*, Temm. Catal. System. p. 196.

Dr. G. Hartlaub.

UNPUBLISHED CORRESPONDENCE OF LINNÆUS.

ALL the unpublished letters of Linnæus must possess great interest. One of the following letters is in the possession of Mr. Gould, and the second, with two others, were procured by him for our inspection, and with permission to publish if we deemed them sufficiently interesting. Both the following letters are written to the Rev. John White, brother to White of Selborne, and the last is addressed to him at Gibraltar, at the period when he meditated his *Fauna Calpensis*. Allusion is made to this work in the two other letters, which will be given in an early number, but so far as we have been able to discover, we cannot find that this work was ever published, neither can we trace the MSS. Dr. White must have been some time in correspondence with Linnæus, as he is mentioned as about to write to him, in a letter from Dr. Solander to Mr. Ellis in 1762. The present letters bear a date ten years later, or about the time when the correspondence of Linnæus was at its fullest, and embraced that of nearly every naturalist in the world.

To the ornithologist these letters are interesting, as pointing out that the authority for *Hirundo (cypselus) melba*, in the 12th edition of the *Systema*, 1766, was probably taken from Edwards, and that the species was first seen at the date of this letter; while the *H. rupestris* does not occur in the 12th edition at all, and was probably only referred to from some question put by Mr. White. In the 12th edition, the *Pratincole* is placed with the swallows, and the remarks will be read with interest. Linnæus had apparently not seen this form in 1772. *Motacilla tithys* is omitted in the 12th edition as a species, though noticed as β. under the *Phœnicurus*.

VIRO REVERENDISSIMO D^NO^ JOHANN WHITE.

S. pl. D.——CAR. LINNE.

LITERAS tuas V. R. die 30 Junii ante octiduum planè consternatus aperui, dum tuq. cui nunquam mihi fortuna innotescere concessit, mihi offers tuam gratiam, tuas divitias naturalium rerum. Mihi verba deficiunt explicandi affatum meum sincerum in virum tanto virtutis robore. Gratulor scientiæ, quam ambo in deliciis habemus, quod qui fata rerum gubernat te excitaverit in admirationem mundani operis Artificis. Nullum ego novi, in regione quam inhabitas, cui Deus antea concessit apertos oculos in regione intueri naturalia ubi concurrunt Hispanicæ, Lusitanicæ, Barbariæ Plantæ, Insecta, Aves, reliqua Animalia; ad Fretum penetrabunt Pisces omnes qui ex oceano in M. Mediterraneum ire et redire debent. Tu profecto, si in Europâ ullus, videbis plurima Creatoris miracula.

Piscium nominatorum nullum majori desiderio examinarem, quam *Lepadogastrum*, cujus ideam nequeo mihi a Gouani opere ritè formare, ut certus evadam, utrum *novum* formet genus, necne.

Hodie accipio lagenulam a te generosissimè mihi oblatam, in qua reperio rarissima tua Insecta.

Sphex ista cum maculis 4 dorsalibus abdominis, a me nunquam antea visa fuit. Addidisti et ejus varietates cum capite variegato, cum antennis luteis, cum maculis dorsalibus tantum Duobis.

Sphex altera non minus rara et admodum singularis *alis* (laciniatis v. erosis ?) ferrugineis apice nigris; neq. illa a me visa fuit.

Mutilla an apud vos frequens? hic rarissima, anne innotuerit ejus œconomia? habeo jam eam alatam.

Chrysis species varias vidi. Sed quid in his sit sexus differentia, non potui adhuc addiscere.

Gryllus Turritus ad me anteà tantum e Dorbaria missus fuit. Adhuc hæsito de sexu, alia mea individua habent antennas magnas ensiformes; alia antennas minutas setaceas. Quæso inquiras in tuis Gryllis turritis num uterq. sexus habeat similes antennas.

Tabanus iste forma muscæ itidem mihi novus et rarissimus fuit.

Panorpa coa, cum vobis vulgatissima, omnium in votis esset ejus metamorphosin habere notissimam.

Gryllus turritus habet caput accuminatum, sed os versus terram adeoq. nutans dici potest.

Neq. *Sphex fisipes*, neq. *clavipes* erant in vitro; quas inclusas scribis.

Chrysis tua viridis ano cæruleo videtur nova species.

Mutilla tua vix diversa est a mea.

Lucanus tuus erat *Lucanus parallelipepidus*.

Cancer lateribus 3 spinosis mihi antea visus non fuit.

Si unquam capere posses, et me donare velles *Pratincola Trachelia*, esset mihi munus quod cum Lepadogastro præ reliquis maxime delectarer. Tracheliam aliquis mihi dixit debere amandari ad hirundines; sed maxime dubito adhuc de veritate.

Pennant a te dives factus fuit raris naturæ Cimeliis.

Utinam possem aliquid tibi prestare pro tanto dono; anxius ero.

Upsaliæ, 1772, d. 20 Januarii.

This letter is addressed—

To the Rev^d^ M^R^ John White,
To the care of Mr. White,
Bookseller in Fleet Street,
London.

Franco Amsterdam.

UNPUBLISHED CORRESPONDENCE OF LINNÆUS.

VIRO REVERENDISSIMO D^{no} JO. WHITE.

S. pl. D.——CAROL. LINNE.

ACCEPI nuper Thesaurum Tuum vere aureum, missum d. 13 Maji, nec gratiorem unquam. Quibus verbis Tuam in me predicabo gratiam effari nequeo. Aviculas Tuas rarissimas antea non vidi; eas studebo diligenter urbi et museo S. Bibliothecæ redditus, qui nunc ruri æstivo.

Hirundo melba; quam antea non vidi, affinis H. Apus.
Hirundo rupestris mihi antea ignota; vere distincta.
Coturnix tridactyla; an ex ordine Gallinarum aut Grallarum?
Motacilla tithys Longe a meâ aliena.
1. *Zeus* an *Perca* proprii generis piscis et novi: capite excoriato, reticulato—cœlato.
Coryphæniodes vix videtur, convenire cum generibus notis Doleo quod pinn. Dorsi, ani, et caudæ erant mutilatæ ut radios numerare not licuerit.

2. *Perca Dipterygia rubra.* Ad percæ genus forte pertinebit; caput licet muticum; ob pinnas 2 dorsales vix Sparus aut Labrus erit.

Cancer arctus omnino
Cancer carinatus
3. *Cancer* Antennis Longissimis
Cancer Rostro Longissimo
Hæ squillæ, ut ut valde affines, videntur vere specie distinctas esse; cum pedes didactyli differant in diversis.
Cancer minutus
Cancer brach. hirsutus. Mihi antea non visus.

Lacerta lemniscata est.
Scarabœus Hispanus est.
——— *Typhœus* est.
——— *Laticollis;* sed elytra non striato. An sexu.
4. *Scorpio australis* est; *Scorpio Calpensis.*

Scolopendra morsitans est.
——— *forficata* est; quæ minor.
Meloe majalis est.
Asilus barbarus est.
Chrysomela sanguinea est.
Carabus granulatus est.
Tenebrio tibialis est.
Cottus gobio est.

Mantis gongylodes. An larva?
5. *Cimex morio.* Qui copiosus erat.
Chrysomela goetingensis est.
——— staphylea est.
——— *marginata* est.
Curculio anguinus est.
——— *nebulosus* est.
——— *barbaro similis*, sed triplo minor.
——— *Whitei!* brevirostris, ater, undiq. punctatus, novus.
Silpha Littoralis est.
—— *rugosa* est.
—— *oblongata* est.
Scarabæus sabulosus est.
Hister ater, nitidus, elytris striis 5 *dimidiatis obliteratis*, novus.

Upsaliæ, 1772, *d.* 7 *Augusti.*

This letter is addressed—

Viro Reverendissimo
D$^{\text{no}}$ JOHANNI WHITE,
GIBERALTAR.

ANTWERPEN.

UNPUBLISHED CORRESPONDENCE OF LINNÆUS.

WE now fulfil our promise in giving the other two unpublished letters referred to in our last number. The ornithological remarks will again be found interesting; and in the first *Fauna Calpensis* is there referred to as either in progress or in preparation for the press.

REVERENDISSIME DOMINE.

LITERAS tuas V. R. dies 26 Novemb.^{r} nuper habui. Gratulor reditum in patriam. Lætor quod valeas.

Te non accepisse literas meas posteriores miror, forte iis non inscripsi sic dictam assignationem domus, quod non recordor; me rescripsise optime recordor.

Inter tua erant multa, quæ æternæ memoriæ mandari deberent, et ego in meis MSS. auri instar asservo propediem edituris, non sine inventoris honorifica memoria.

Tetrao Tridactylus est tam singularis in suo ordine, ut, nisi vidissem, non credidissem. Quid de hac ave dicit D. pennant?

Piscis Thoracicus novi generis est cranio nudo, suturis plurimis exarato, Diaphano.

Motacilla antea mihi non cognita.

Hirundo rupestris nescio an varietas Apus?

Spheges tres videntur valde affines, nec eadem.

Cancri Squillæ, 7 species ni fallor, quanquam valde similes; sic indicant partes, chelæ reliquas distinctè descripta.

Apis propria species et reliqua omnia, pro quibus dum vixero ero in tuo œre.

Exemplaria meorum operum omnia distracta sunt, ut nullus ea comparavi queat in patria; novam darem eorum editionem, sed editor Salvius ante dimidium annum occubuit. Admodum multi a me expetiere exemplaria, sed comparare nulla ratione ipse possum, si aliquis in Anglia ea edere vellet, possem præbere exemplar observationibus innumeris et speciebus ultra mille auctum, cum ex omnibus indies garophylaicis instructus fui ab eo tempore, quo ultimam dedi editionem; ut taceam synonyma Auctorum plurium recentissimorum. Optarem imprimis systema naturæ, genera et species plantarum novo editione, me vivo, prodire.

Anglicam linguam loquentem satis intelligo, scriptam non æque facile; ipse anglice scribere nequeo. Dum lego scripta, pleraque capio; si unum alterumve verbum deficiat, istud facile evolvo. Possem semper etiam habere amicos, qui optime linguam explicant.

Fauna Tua Calpensis esset et mihi et omnibus exoptatissima.

Pratincolam nunquam vidi; quæ de ea habent Scopoli, Pennant, Gmelin et recentiores alii, vidi ad Grallos eam referunt plurimi; licet rostrum videter multum differre.

Lepadogaster neq. a me visus fuit; videtur admodum singularis.

Logie, octogenarius, qui fuit consul Algirensis, vivit adhuc; at filius, qui ibidem serius consul factus fuit, etiam mihi notus, sed de eo, ab adventu Algiriam non audivi; scio tamen alium consulem Suecicum Algiriæ nunc esse Algiriæ.

Vale et fave Tuo Sincero cultori,

CAR. LINNÉ.

Upsaliæ, 1774, *d.* 2 *Januarii.*

Si novisti Virginem egregiam Anna Blackburne ipsam plurimum salutes. Floræ et Faunæ filia est, in cujus amores ardeo.

This letter is addressed—

To
The Rev^{d} JOHN WHITE,
Vicar of Blackburn,
LANCASHIRE.

Franco Amsterd.

VIRO REVERENDISSIMO ET VENERANDO.
Dno J. WHITE.

S. Pl. D.——Carol. Linné.

Accepi literas tuas, ad calend. Januarii datas, suo tempore et ad eas regessi. Accepi et datas d. 1. Martii, et 22 Aprilis. Accepi et ante duos dies merces tuas et dona vere aurea; pro quibus omnibus ac singulis grates immortales reddo, reddamq. dum vixero.

Sturnus collaris, Scop. ann. 1, p. 131. Fringilla sordone. *Manett. Orn.*, *t.* 338, *f.* 1. Avis Kyburgensis, *Gesn. Orn.*, *app.* 725. Muscicapa gula alba fusco undulata, tectricibus alarum nigricantibus apiculo albo *(collaris)* mihi dicenda. Rostrum admodum parum est emarginatum. Diversa a Turdo arundinaceo.*

Turdum pygargum non antea vidi; erit equidem Turdus; apex rostri modice incurvus.

Pratincolam antea non vidi; ad Grallas spectat et proprii generis est.

Dno *Lever* ne desinas grates meis verbis agere pro egregie et pulcherrime conservatis aviculis, quibus me beare voluit.

Phytolithi filicum erant certe optimi isti lapides qui referunt tænias non vidi; an radicum plantarum aquaticarum rudimenta?

Ista impressio in shisto, ita refert *sertularium* quandam Ellisii, ut nisi magnitudo vetaret, dicerem eam sertulariam.

Alia foliis atris linearibus est *Zostera*. Quadrati politi. *Quartzum coloratum γ. Syst. Nat.* 3, *p.* 65.

Fuci rubri et pilosi impressiones rariores.

Lepadogaster, Gouan, in lagenula est certe *cyclopterus nudus* meus. *Syst. Nat.* 414, n. 2.

Attelabus calpensis, hunc etiam ab aliis accepi.

Tenebrio femoribus uncinatis (bispinosis) *Tenebrio calpensis* mihi dicendus.

Motacilla cauda albo nigroque maculata, a me antea non visa.

Myrmeleon formicarium nostrum habet in alis stigma album, habeo jam insectum coram.

---

* This bird is the *Accentor alpinus*.

Formica lyn lege formica lynx.

Artedi opera non prostant apud nos, sed Leidæ.

Gryllus umbraculatus, ubi habitat; quid agit cum umbraculo?

Te datore optimo multa animalia habeo.

Tetrao tridactylus pedibus nudis tridactylis.

Hirundo rupestris, nigricans, rectricibus sub-æqualibus; 2.3. macula alba.

Piscis thoracicus capite excoriato nondum nomen imposui.

Atelabus calpensis cœrulescens thorace piloso elytris rubris punctis 3 nigris.

Sphex mutabilis atra pedibus hirtis, abdomine maculis luteis plerumque quatuor.

Sphex erosa nigra capite thorace alis pedibusq. ferrugineis.

Apis calpensis labio superiore acuminato inflexo abdominis segmentis punctis geminis nigris.

Cancer diæresus brachyurus thorace lævi linea transversa insculpto, marginibus serratis, chelis scabris.

Cancer . . . . . . brachyurus subhirsutus manibus totis ciliatis.

Cancer ex squillarum prosapie 4 distincta nondum posui differentius, et numera plura, præter ultima te inventore alleganda.

Literæ excresserent in infinitum, si simul et semel omnia responso exponerem, nunc aliis negotiis implicitus reservo reliqua proximæ epistolæ.

Scripsi multa addenda *vol. i.*, *Syst. Nat.* idq. quotidie; absolvi dimidium tomum. Si tuus frater edat, certus sum quod hoc prodeat optimis typis, qui Anglis communes. Tam multa quæ quotidie prodiere post priorem editionem operis, et quæ allegavi multum laboris expostularunt. Si vixero absolvam opus in Autumnum. Quid mihi offerat in sostrum?

An poterit habere optimum correctorem typi?

Upsaliæ, 1774, *d.* 3 *Julii.*

Addressed to—

Viro Reverendo
Domino JOH. WHITE,
LONDON,
Blackburn.

Franco Amsterdam.

Sealed with the Linnæa.

ORNITHOLOGY OF QUITO.

We have lately received a small collection of birds from the vicinity of Quito, through the attention of Professor William Jameson of the University there. That gentleman is already well known to botanists, from the large and valuable collections and notes which he has from time to time transmitted to Sir William J. Hooker; and we are glad to have been able to enlist his services in procuring for us the ornithology of the same country, and to revive in him a taste for a department of natural history which he formerly delighted to study. Our first consignment contained only seven species, being made hurriedly on receipt of our letters; but among them are some birds of interest. Another parcel is now on the way; and we propose to notice and record the contents of each as they reach us; and hope that we may also be supplied with such notes of their habits and zones of distribution, as will enable us to give a somewhat connected account of the ornithology of that elevated and remarkable region.

The ornithology of Peru has already been explored by Tschudi and D'Orbigny; and as the observations of the latter inform us, that the extent of the distribution of the birds on the eastern side of South America is very diffused, reaching from latitude 15° to Patagonia, a distance of 440 leagues, we may expect to find, and have already received, species identical with some of those described by the before mentioned travellers, yet we are not aware that the vicinity of Quito has been completely or even partially examined, or the mountain chain of the Andes between Quito and the 11°, where the researches of D'Orbigny cease, explored. None of the species now received have been killed at an elevation below 11,000 feet, some as much as 14,000 feet above the level of the sea; and the dull plumage and uninviting forms which they in general exhibit, do not tempt dealers, as in other parts of South

America, to collect birds for commerce,* whence we may expect that some species may not yet have found their way into the collections of this country.

D'Orbigny, who bestowed much attention during his travels to the subject of geographical distribution, has made some interesting observations upon the range of latitude and elevation in his prefatory remarks on the "Passereaux."

The number of species belonging to this order which he met with was 395; and for the distribution of these he divides the southern continent of America, from the 11° south, from whence his travels extended, into three zones of latitude, and three zones of elevation above the sea level, and considers, that between the Tropic of Capricorn and the Line, the zones of elevation correspond with the zones of latitude. These zones are—I., from the 11° to 28° south—II., 28° to 34°—III., 34° to 45°;—and I. from 0 to 5000 feet—II., 5000 to 11,000—III., above 11,000.

The first zone of latitude exhibits the greatest variation in its physical characters; vegetation is displayed in all its richest luxuriance, variety and grandeur, and there is an immense exuberance of insect life. The proportion of the number of species here is very great, no less than 240, 51 of which are also common to the mountain region, not exceeding 5000 in elevation, whence 189 species remain as properly belonging to the *plains* of this first zone.

In the second zone of latitude, 72 species only were found exhibiting a very marked diminution towards the south. There are no longer found the dense forests or plains so varied in their vegetation; the country assumes a more uniform aspect, and the diminution of food of all kinds is the consequence. Of these 72 species, 29 are common to about the 15° of latitude, and to the mountains varying from 5000 to 11,000, which, from their temperature and its influence on vegetation, are considered to correspond; and thus it results, that only 43 species properly belong to this second zone of latitude.

In the third zone the species continue to decrease, and amount to only 37, dependent upon the climate, and its influence on insect and vegetable life. Of these 37 species, notwithstanding the great distance, 8 are still met with, which are at the same time common to the 15° of latitude, and to the mountain ranges, exceeding 11,000 feet in elevation—leaving to this zone of latitude only 29 as properly belonging to it.

---

* In the vicinity of Rio de Janeiro, the collection of birds is a regular trade. Prince Adelbert of Prussia, in his Travels, mentions a Mr. Besecke, "a trader in birds' skins and taxidermist." He gives employment to above thirty huntsmen, and had, at the time of the prince's visit, 35,000 birds on his shelves, which formed his chief article of trade.—II. p. 23, *Schomburgk and Taylor's Translation.*

Observing the distribution according to elevation, D'Orbigny found, in the first zone, the entire number of species only 83, of which 51 descend to the plains, leaving only 32 peculiar or proper to the mountains of this zone, or the warm region, which is extremely few when compared with the number (189) proper to the Æquatorial plains.

In the second zone of elevation, 60 species were observed, a number comparatively with the first zone of elevation as of three-fourths, and with the second zone of latitude which corresponds with it of one-twelfth. These comparisons show, that if there is a small relative proportion between the gradual diminution of the numbers incidental to the two first zones of latitude and elevation, there is a very large one between the numbers in the zone of latitude which corresponds with it. In this zone there are 31 species proper to the mountains.

The third zone of elevation presents only 22 species, being, in comparison with the third zone of latitude which corresponds with it, of only four-sixteenths. Of the 22 species, 8 are also found between the 34° and 45° of south latitude; whence it results, that there are only 14 species peculiar to these very elevated mountain ranges.

These observations relate to the eastern aspect or exposure of the Andes, for on the opposite or western aspect, the discrepancy in numbers is very great. This is caused by the mountains on the one side being clothed with impenetrable forests, where fruitful rains encourage an active and luxuriant vegetation, and where their plains are covered with wood, interspersed with the variation of clumps and open glades, water, and marshy grounds. The western slopes, on the contrary, scarcely exhibit a stunted brushwood, or groups of *Cactus* springing up from among the dry and parched rocks, where it seldom rains, and where the torrents are supplied by the perpetual snows of the elevated peaks. On the eastern slope, then, of the Andes, 374 species exist, while on the western

48 only were met with, and 25 species being common to both aspects, it follows, that on the eastern, 252 only are peculiar—20 only to the western slope.

D'Orbigny has thrown these observations into a table, which both exhibits his views of the classification of the "Passeraux," as well as the numbers of species and distribution of genera according to latitude and elevation. The preceding summary, with a copy of this table on the opposite page, we consider may be interesting, when commencing observations on the ornithology of a region, situate in continuation with that to which his remarks refer; and we only regret, that his observations, on distribution and migration, run to such a length as would much exceed our limits. We may, however, have again to recur to them.

The species which we have received in this small collection are—

Cotinga arcuata, De Lafresn.—"From the forest on the *western* side of Pichincha; inhabits the cold region."

Tænioptera alpina, Jard.—"This species occurs on the highest ridge of the Andes, rarely descending below the snow."—(See Plate and Description.)

Phrygilus unicolor, De Lafresn.—"On the elevated pastures of the Andes, 13,000 to 14,000 feet."—(See Plate and Description.)

Limnornis, —"From the lofty pastures of Pichincha; frequenting sides of streams."

Diglossa cyanea, De Lafresn.—"From the forest on the eastern side of Pichincha; in the cold region."

Trochilus ensiferus.—"Humming bird; occurs on Pichincha, in the shrubby region, 11,000 to 12,000 feet above the sea level." We would wish much to ascertain the habits of this most remarkably formed species. The length of the bill equals that of the whole bird, and must be suited to some peculiar habit or mode of feeding, or to the structure of some peculiar and prevailing class of flowering plants. In the specimen received, the bill is four inches in length; and Mr. Gould writes us, that in one specimen ♂ in his rich and daily increasing collection of this family, the bill is $\dot{4}.\ddot{3}$ in length, while in an adult female it only reaches to $\dot{3}$.

Columba boliviana, De Lafresn.—"Occurs on the elevated pastures of the Andes; 13,000 to 14,000 feet of elevation."

OMPARATIVE TABLE *of the Habitat in Latitude, and in Elevation above the Level of the Sea, on the Eastern and Western Slopes of the Andes, of the* **Passeres** *which we have observed in South America; showing, at the same time, the Number of the Species of each Genus and of each Family, together with the Classification which a Study of their habits obliged us to adopt.*

CLASSIFICATION OF PASSERES.				NAMES of GENERA and SUB-GENERA.	LIMITS OF THE HABITAT OF THE GENERA.			Number of Species of Genera.	Number of Species of Families.
					East to West of Andes.	Latitude South.	Elevation in feet above the level of the sea to 15° of lat. south.		
DENTIROSTRES.	SECTION A.—*A bec comprimé.*	I.re Famille. Laniadées.		Laniagra	E.	11° to 28°	0 to 5,000	1	2
				Vireo	E.	11° to 28°	0 to 5,000	1	
		II.e Famille. Myothérinées.	Dumicoles	Thamnophilus	E.	11° to 32°	0 to 7,000	13	27
				Formicivora	E.	11° to 18°	0 to 6,000	6	
				Myrmothera	E.	11° to 18°	. . . .	3	
			Humicoles	Conopophaga	E.	11° to 23°	0 to 5,000	3	
				Myothera	E.	11° to 23°	. . . .	2	
		III.e Famille. Rhinomydées.		Rhinomya	E.	41° to 45°	. . . .	1	5
				Pteroptochos	W.	33° to 53°	. . . .	4	
		IV.e Famille. Turdusinées.	Sylvicoles	Turdus	E. to W.	11° to 45°	0 to 11,000	5	12
			Dumicoles	Orpheus	E. to W.	11° to 45°	0 to 11,000	5	
			Arundinicoles	Donacobius	E.	11° to 28°	. . . .	2	
		V.e Famille. Sylviadées.	Sylvicoles	Sylvia	E. to W.	11° to 28°	0 to 5,000	5	37
				Hylophilus	E.	11° to 28°	. . . .	1	
				Dacnis	E.	11° to 23°	0 to 5,000	4	
			Dumicoles	Synallaxis	E. to W.	11° to 45°	0 to 11,000	15	
				Troglodytes	E. to W.	11° to 45°	0 to 11,000	7	
			Humicoles	Anthus	E. to W.	11° to 45°	0 to 11,000	5	
		VI.e Famille. Tanagridées.	Sylvicoles	Nemosia	E.	11° to 23°	0 to 5,000	3	46
				Tachyphonus	E.	11° to 28°	0 to 5,000	6	
				Euphonia	E.	11° to 28°	0 to 5,000	4	
				Tanagra	E. to W.	11° to 34°	0 to 11,000	14	
				Pyranga	E.	11° to 28°	0 to 5,000	2	
			Dumicoles	Ramphocelus	E.	11° to 23°	0 to 5,000	1	
				Embernagra	E.	11° to 43°	0 to 8,000	4	
				Saltator	E.	11° to 34°	0 to 11,000	9	
				Phytotoma	E. to W.	11° to 34°	5 to 11,000	3	
	SECTION B.—*A bec déprimé.*	VII.e Famille. Pipradées.		Rupicola	E.	11° to 18°	0 to 5,000	1	3
				Pipra	E.	11° to 28°	. . . .	2	
		VIII.e Famille. Coracinées.		Cephalopterus	E.	11° to —°	0 to 5,000	1	1
		IX.e Famille. Ampélidées.		Querula	E.	11° to 20°	. . . .	1	5
				Ampelis	E.	11° to 28°	0 to 5,000	3	
				Tersina	E.	11° to 23°	. . . .	1	
		X.e Famille. Muscicapidées.	Sylvicoles	Psaris	E.	11° to 23°	. . . .	5	88
				Pachyrhynchus	E.	11° to 23°	. . . .	1	
				Tyrannus	E.	11° to 45°	0 to 8,000	14	
				Hirundinea	E.	11° to 28°	0 to 8,000	1	
				Muscipeta	E. to W.	11° to 34°	0 to 5,000	17	
				Muscicapa	E.	11° to 34°	0 to 8,000	14	
			Dumicoles	Alecturus	E.	11° to 34°	. . . .	4	
				Tachuris	E. to W.	31° to 34°	. . . .	2	
				Culicivora	E. to W.	11° to 45°	0 to 11,000	4	
				Gubernetes	E.	11° to 23°	. . . .	1	
				Fluvicola	E.	11° to 45°	0 to 11,000	8	
			Humicoles	Muscigralla	W.	18° to —°	. . . .	1	
				Pepoaza	E. to W.	11° to 45°	0 to 18,000	12	
				Muscisaxicola	E. to W.	11° to 45°	0 to 18,000	4	
FISSIROSTRES.		I.re Famille. Caprimulgidées		Nyctibius	E.	11° to 28°	. . . .	1	6
				Caprimulgus	E.	11° to 41°	. . . .	5	
		II.e Famille. Hirundinées.		Hirundo	E. to W.	11° to 45°	0 to 18,000	8	11
				Cypselus	E. to W.	11° to 23°	0 to 18,000	3	
CONIROSTRES.		I.re Famille. Alaudinées.		Certhilanda	E. to W.	11° to 45°	0 to 18,000	3	3
		II.e Famille. Fringillidées.	Dumicoles et Graminicoles	Emberiza	E. to W.	11° to 34°	0 to 13,000	5	44
				Passerina	E. to W.	11° to 45°	0 to 18,000	22	
			Sylvicoles	Fringilla	E.	11° to 34°	. . . .	1	
				Carduelis	E.	11° to 45°	0 to 11,000	2	
				Linaria	E.	11° to 23°	0 to 11,000	2	
				Pitylus	E.	11° to 28°	0 to 9,000	3	
				Pyrrhula	E. to W.	11° to 23°	0 to 5,000	9	
		III.e Famille. Corvidées.		Garrulus	E.	11° to 28°	0 to 5,000	4	4
		IV.e Famille. Sturnidées.	Sylvicoles	Cassicus	E.	11° to 28°	0 to 5,000	6	22
			Graminicoles	Icterus	E. to W.	11° to 45°	0 to 18,000	14	
				Sturnella	E. to W.	11° to 45°	. . . .	2	
TENUIROSTRES.		I.re Famille. Certhidées.		Dendrocolaptes	E.	11° to 28°	0 to 5,000	10	10
		II.e Famille. Sittadées.	Grimpeurs	Xenops	E.	11° to 28°	0 to 5,000	2	16
			Dumicoles	Anabasitta	E.	11° to 28°	0 to 5,000	4	
				Anabates	E.	11° to 45°	. . . .	4	
				Anumbius	E.	11° to 45°	0 to 8,000	5	
				Furnarius	E.	11° to 34°	0 to 8,000	1	
		III.e Famille. Uppucerthidées		Uppucerthia	E. to W.	11° to 45°	0 to 18,000	7	7
		IV.e Famille. Cœrebidées.		Cœreba	E.	11° to 28°	0 to 5,000	3	5
				Serrirostrum	E.	11° to 21°	0 to 7,000	2	
		V.e Famille. Trochilidées.		Trochilus	E. to W.	11° to 34°	0 to 11,000	25	36
				Ornismya	E.	11° to 28°	0 to 11,000	11	
SYNDACTYLES.				Prionites	E.	11° to 23°	0 to 5,000	1	1
				Alcedo	E. to W.	11° to 34°	0 to 8,000	4	4
								TOTAL . . .	395

ORNITHOLOGY OF QUITO.

(*Continued from page* 45.)

In our last Number we promised to continue the illustration of the ornithology of Quito and its vicinity by every opportunity; and since the present Number has been in type, we have received intimation from our friend and correspondent, Mr. Jameson, that a large case has been despatched, which we fully expect during the present month of October. The same letter contained skins of a beautiful Humming Bird, which although we are aware that specimens have been among the London dealers during the last month, it has not, we believe, been yet described or published; and as we are anxious to secure for Mr. Jameson the credit of discoveries he is so well entitled to, we now give the description, delaying any figure until our other specimens arrive, when we shall be able also to accompany it with that of the plants which the species chiefly frequent. It will also form the subject of an early illustration in Mr. Gould's splendid monograph of the family.

OREOTROCHILUS JAMESONII, Jardine.

October, 1849.

This beautiful species forms part of Mr. Gould's genus *Oreotrochilus*, all the known species of which inhabit the highest peaks of the Andes, bordering upon the limit of perpetual snow. Mr. Jameson writes, "It inhabits the rocky summit of Pichincha, and extracts its food from the flowers of *Chuqueraga insignis*. It is limited to a narrow zone, commencing immediately under the snow line, and extending about 500 feet."

Three fine specimens of *Oreotrochilus* have already been figured, all having a brilliant green gorget. The one before us resembling the others in the arrangement of the markings, has this conspicuous ornament of a rich purplish-blue; the bill is black; edge of the mandible at the base yellowish; the crown, cheeks, and nape, deep blue; back and upper tail-covers greyish-green, with partial reflections, and on the lower back and rump marked with fine pale undulations; wings brownish-black; tail, with the centre feathers, shining blackish-green; the others with the inner webs white; the tips and outer webs of the feathers black—the proportion of black increasing on those to the outside; and on the last or exterior, the greater part of the feather is black; beneath, the chin appears almost black; next the characteristic gorget of the form, of a rich purplish-blue, showing various shades according to the position. This is succeeded by a narrow band of deep black, as in those species already figured by Mr. Gould; the breast and sides of the belly are pure white; the under tail-covers and flanks greyish-black, the same colour running up the centre of the vent.

The entire length is $\dot{5}.\ddot{1}$; bill to forehead, $\ddot{9}$; wing to end of longest feathers, $\dot{3}$.

NOTES ON THE STRUCTURE OF BIRDS.

MENURA.

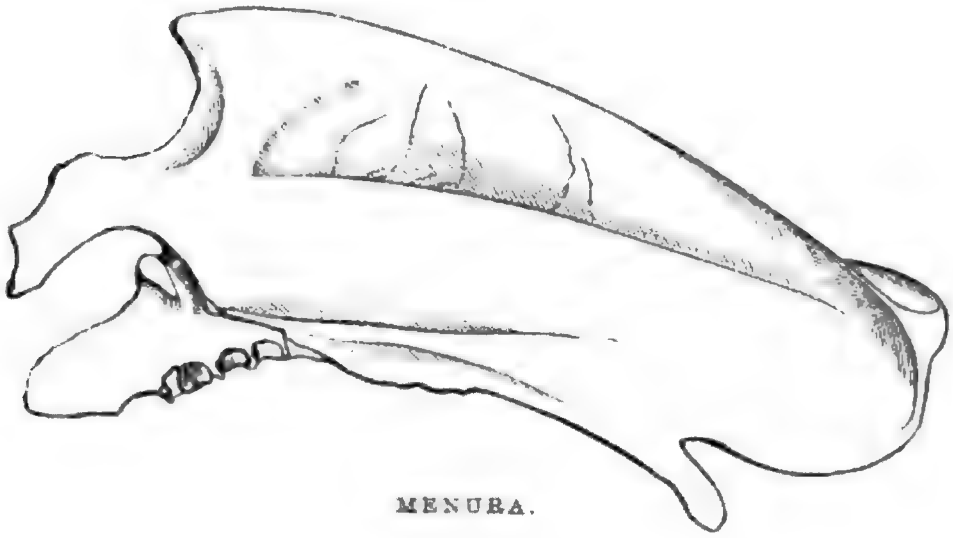
In a former number we figured a part of the intestinal canal of *Penelope cristata*, that it might be compared with a plate to be given afterwards of that of the Australian *Menura*.

On one of the plates of the present number, we have represented the cloaca and cæcal appendages of both birds; and on the other, a portion of the intestinal canal of *Menura*. In the first, the difference in the structure of the cæca of *Penelope*, referred to at p. 27-3 of "Contributions" for 1848, is very marked. In *Penelope* they are very long and narrow in diameter, as in most rasorial birds; in *Menura*, on the contrary, they are extremely short, almost abortive.

On our other plate devoted to the structure of *Menura*, we see the œsophagus wide and capacious, narrowing at about half its length, and again dilating to form the proventriculus (*a*) which is, a simple lengthened oval dilatation of about 1 . 2'' or 3'' in diameter. When inflated, it constricts before entering the very small but muscular gizzard (*b*). The pylorus externally seems to leave the gizzard near to the entrance of the proventriculus, and soon dilates into a duodenum (*c*) of moderate size. The gizzard, when laid open, showed considerable strength; the two muscles, when transversely cut, being nearly 4'' across. The epithelium is strong; the opposing surfaces deeply furrowed, and apparently possessing great power. The proventriculus, which appears externally more than usually large, has the walls rather thin, but is thickly studded with oval glands; immediately above, we have the usually found plicæ, which continue upwards until the position of the true crop, where the walls become slightly thick and partially glandular.

The gizzard contained remains of hard coleoptera (among others fragments of curculionidæ), one or two hard seeds, and bits of quartz. The entire length of the intestinal canal measured 51̇.6̈.

At the distance of about 7̇ from the external pylorus, the hepatic duct (*d*) is given off 1̇.3̈ in length, crossing the regular gall duct and terminating in two branches, which, in common with the regular gall duct, seem to communicate with a large sinus in the liver. About 1̇ farther on arises the real gall duct (*e*) curving abruptly at about an inch in length, to enter a pyriform gall bladder, and at the same time to send a continuous branch (*f*) to the sinus above alluded to. On inflating from the bladder, the communication is direct to the duct, the continuous branch not inflating until the other has been filled.



MENURA.

ON THE FORM OF

THE POSTERIOR MARGIN OF THE STERNUM

OF THE

VULTURIDÆ.

BY T. C. EYTON, ESQ., F.L.S., &c.

MR. GRAY, in his excellent and most useful work, "The Genera of Birds," divides the *Vulturidæ* into the following genera:—*Gypætos*, *Neophron*, *Sarcoramphus*, *Cathartes*, *Vultur*, *Otogyps*, *Gyps*, and *Gypohurax*, excluding *Serpentarius*, which he classes with *Circus*, but which must be again restored to the *Vulturidæ*, the whole skeleton being that of a true vulture. Of the above nine genera, I have obtained the skeletons or made drawings of those of seven. On examining the accompanying plate, the first six appear to resolve themselves into a consecutive series, thus 4, 6, 5, 3, 1, 2. No. 7 appears at first sight not to belong to the series, but upon comparing it with No. 2, we shall find some points of resemblance.

In figure 2, representing the posterior margin of the sternum of *Cathartes aura*, the hyposternal portion is elongated laterally; the drawing was taken from the skeleton of a young bird, and it is probable that this process would be more developed in an older specimen. The posterior part of the entosternal portion is also elongated; not so much so, it is true, as in *Serpentarius*, figure 7, but more so than in the other genera of vultures. *Serpentarius* differs however from *Cathartes*, in not having any orifices on each side of the sternum, but this we find also to be the case in *Sarcoramphus*, figure 4. I have given, for the sake of comparison, outlines of four other forms of the posterior margins of the sternum in the order *Raptores*, viz.—*Aquila chrysactos*, figure 8; *Circus æruginosus*, figure 9; *Nyctia nivea*, figure 10; and *Polyborus braziliensis*, figure 11; to none of these, with the exception of the last, does *Serpentarius* present the least resemblance; the whole osteology of *Polyborus*, indeed, comes so near that of the vultures, that I have some doubts whether that genus ought not to be arranged with them instead of with the hawks. There is, however, a resemblance to the hawks in the form of the posterior margin, in the central or entosternal portion not being prolonged beyond the hyposternal or lateral portions, or, in other words, beyond the general line of the posterior margin. In all the vultures I have examined this is the case, distinguishing their skeletons at once from that of the other *Raptores*. On this account, therefore, I shall for the present exclude the *Polyborina* from the true *Vulturidæ*.

Having now pointed out my reasons for including *Serpentarius* among the *Vulturidæ*, I shall endeavour to show, in a tabular form, how that family may be arranged by the forms of the posterior margin of the sternum only:—

VULTURIDÆ.

The Entosternal portion not prolonged backwards beyond the Hyposternal portion:—

Keel not prolonged to the posterior margin of the Entosternal portion	GYPAËTINÆ...... *Gypaëtos*.........	Lateral orifices large—Hyposternal portion slightly elongated laterally.
	CATHARTINÆ ... *Cathartes*	Lateral orifices of moderate size—Hyposternal portion much elongated.
	NEOPHRONINÆ... *Neophron* ...... *Gypohierax* (?)	Lateral orifices small—Hyposternal portion not elongated.
Keel prolonged to the posterior margin of the sternum	SERPENTARINÆ *Serpentarius* ...	Without lateral orifices—Entosternal portion much elongated.
	VULTURINÆ...... *Vultur* .... *Gyps* .... *Otogyps*	With lateral orifices—Entosternal portion very slightly elongated.
	SARCORAMPHINÆ *Sarcoramphus*	Without lateral orifices—Entosternal portion very slightly elongated.

OBSERVATIONS

ON THE

SYSTEMATIC POSITION OF THE GENUS *ARTAMUS*, Vieillot.

THIS very curious and interesting form, for it possesses modifications of structure that has rendered its position in our systems questionable, was originally known by one species, the *Lanius leucorynchus* of Linnæus, an inhabitant of the Philippine Islands. Another was subsequently found in Continental India; while the discovery of New Holland, and the various expeditions to the interior of that continental island, have now augmented the genus to a considerable number, some of which exhibit a greater variety of form, and less uniformity in the colouring of the plumage, than those with which we were previously acquainted.

By some of our latter systematists (Kaup.) the *Artami* have been considered as the fissirostral type among the *Conirostres;* but by the greater number they have been arranged among the *Laniadæ,* and lately with one of the flycatching families of that group, the *Dicrurinæ* or Drongo Shrikes. They are acknowledged to be at least a "representative" of some portion of the *Fissirostres.* It is there we would wish at once to remove them; and if we shall attempt now to change their arrangement, we trust we shall be able to bring forward some grounds for the foundation of that opinion.

It has frequently been found, that names given provincially, or by natives and settlers, or by those who at the time looked only at some resemblance, and not to scientific affinities, are often correct indications of the position and real situation of the species. The *Artami* have received the titles of "Wood Swallows" from the colonists of Australia—"*Swallow Shrikes*" from the continental ornithologists. There are two ways of attaining to the same result; the one is by an examination of structure, the other by the knowledge and comparison of the habits of the individuals. To procure authentic information of the latter is generally the most difficult; but in the present instance, besides the notices of some of the earlier known species, we are, thanks to the enterprise of Mr. Gould, in possession of a considerable store of materials which can be relied upon, and we shall shortly run over these, comparing them afterwards with what we know of the *Hirundinidæ*. They will be found to coincide remarkably.

Sonnerat, in the "Voyage a la Nouvelle Guinée," relates of the true *Lanius (Artamus) leucorynchus* there described.

"Cet oiseau vole avec rapidité, et en se balançant en l'air, comme les hirondelles. Il est ennemi du corbeau; et quoique beaucoup plus petit, il ose nonseulment se mesurer avec lui, mais même il le provoque. Le combat est long, opiniâtre, dure quelquefois une demi-heure, et finit par la retraite du corbeau; peut-être méprise t-il cet ennemi trop foible, qui ne fait que le harceler, et n'echappe á ses coups que par la facilité qu'il a à les esquiver, à s'eloiner et à revenir en prenant son avantage."—*Sonnerat Voy. a la Nouv. Guin.* iii. p. 56.

The account given of the habits of these birds by Mr. Gould will be read with much interest, and on comparing it with the general manners of our most common swallows, a remarkable similarity will be noticed. Writing of the "wood swallow," *A. sordidus*, he says, This, "besides being the commonest species of the genus, must, I think, be rendered a general favourite with the Australians, not only from its singular and pleasing actions, but by its often taking up its abode and incubating near the houses, particularly such as are surrounded by paddocks and open pasture-lands skirted, by large trees. It was in such situations as these in Van Dieman's Land, at the commencement of spring, that I first had an opportunity of observing this species; it was then very numerous on all the cleared estates on the north side of the Derwent, about eight or ten being seen on a single tree, and half as many crowding one against another on the same dead branch, but never in such numbers as to deserve the appellation of flocks. Each bird appeared to act independently of the other; each, as the desire of food prompted it, sallying forth from the branch to capture a passing insect, or to soar round the tree and return again to the same spot; on alighting it repeatedly throws up and closes one wing at a time, and spreads the tail obliquely prior to settling. At other times, a few were seen perched on the fence surrounding the paddock, on which they frequently descended, like starlings in search of coleoptera and other insects. It is not however in this state of comparative quiescence that this graceful bird is seen to the greatest advantage; neither is it that kind of existence for which its form is especially adapted; for although its structure is more equally suited for terrestrial, arboreal and ærial habits, than that of any other species I have examined, the form of the wing at once points out the air as its peculiar province; hence it is, that when engaged in pursuit of the insects which the serene and warm weather has enticed from their lurking places among the foliage to sport in higher regions, this beautiful species, in these ærial flights, displays its greatest beauty while soaring above in a variety of easy positions, with white tipped tail widely spread." Another very extraordinary and singular habit of the bird, is that of clustering like bees on the dead branch of a tree. Mr. Gilbert thus writes to his employer from Swan River. "The greatest peculiarity in the habits of this bird, is its manner of suspending itself in perfect clusters, like a swarm of bees; a few birds suspending themselves on the under side of a dead branch, while others of the flock attach themselves, one to the other, in such numbers, that they have been observed nearly of the size of a bushel measure." Of *A. minor*, Mr. Gould writes, "The present bird is still more ærial, a circumstance indicated by the more feeble form of the foot, and the equal if not greater development of the wing. During fine weather, and even in the hottest part of the day, it floats about in the air in the most easy and graceful manner, performing in the course of its evolutions many beautiful curves and circles, without the least apparent motion of the wings, whose silvery whiteness as seen from beneath, together with the snowy tips of its wide spread tail, offer a strong contrast to the dark colouring of the other parts of its plumage." The young "were constantly being fed by their parents, who were hawking about in the air over and around the trees, while the young were quietly perched on some dead twig." And again, we have observations on the habits of *A. leucopygialis:*—"In the Christmas week of 1839, at which time I was on the plains of the interior, in the direction of the Namoi, the young progeny of the second brood were perched in pairs or threes together, on a dead twig near their nest. They were constantly visited and fed by the adults, who were hawking about for insects in great numbers, some performing their evolutions above the tops and among the branches of the trees, while others were sweeping over the open plain with great rapidity of flight, making in their progress through the air the most rapid and abrupt turns, at one moment rising to a considerable altitude, and the next descending to within a few feet of the ground, as the insects of which they were in pursuit arrested their attention. In the brushes, on the contrary, the flight of this bird is more soaring and of a much shorter duration, particularly when hawking in the open glades, which frequently teem with insect life. When flying near the ground, the white mark on the rump shows very conspicuously, and strikingly reminds one of the house marten of our own country."

Captain Sturt, in his last arduous expedition into Central Australia, writes of *Artamus sordidus*, "The flight and habits of this bird are very like those of the swallow tribe. They huddle together and roost, selecting a flat round stump, round the edge of which they sit, with their heads inwards, and presenting a singular appearance; or else they cling together, to the number of thirty or forty, on a branch, like a swarm of bees. They were seen in every part of the interior, over the whole of which they appear to range."

In these observations we find pourtrayed the exact habits of many of the swallows. Like them, the *Artami* feed almost entirely on the wing, sweeping, soaring, or skimming over the surface of the country, and in pursuing a similar prey, of necessity pursuing similar evolutions; or if we do find some species selecting a different food, or living partially upon berries, we have parallel instances among the strong-billed American swallows and others. The purple marten occasionally feeds on berries; and Wilson tells us, that the little marten, *Hirundo bicolor*, "for some time before their departure, subsist principally on the myrtle berries *(Myrica cærifera)*, and become extremely fat." The food of the more slender-formed *Steatornis* also tells us, that insect support is not a peculiar though it is a general character of the *Fissirostres*. In that family also, the weak feet, ill formed for walking, seldom permit any of the members to feed upon the ground. In the *Artami*, the feet are proportionally stronger; and we have seen that these birds sometimes feed "starling like." The swallows are more awkward; but those of Britain frequently settle and pick up insects from bare ground, or about parcels of dung on roads; and in a note to Wilson's North American Ornithology, we stated, that several hundreds of the *H. riparia* were collected upon the flat and sandy beach of the Solway, upon a space not exceeding two acres, feeding on a small fly that had apparently come newly to existence, and covered the sands in immense profusion. "Horsemen,"* writes White, "on wide downs, are often closely attended by a little party of swallows for miles together, which plays before them and behind them, sweeping around and collecting all the skulking insects that are roused by the trampling of the horses' feet; when the wind blows hard, without this expedient, they are often forced to settle, and pick up their lurking prey." Sonnerat's description of the daring of *Artamus*, and its attacks on all intruders, is characteristic also of the swallows. "The swallow," says White, "probably the male bird, is the excubitor to the house martens and other little birds, announcing the approach of birds of prey. For as soon as a hawk appears, with a shrill alarming note he calls all the swallows and martens about him, who pursue in a body, and buffet and strike their enemy till they have driven him from the village, darting down from above on his back, and rising in a perpendicular line, in perfect security;" and Wilson relates, "The purple marten is the terror of crows, hawks, and eagles. These he attacks wherever they make their appearance, and with such violence and rapidity, that they instantly have recourse to flight." Mr. Gilbert's description of the manner in which *A. leucopygialis* feeds its young, is exactly that of our common swallow. Every observer must have observed the pairs, or threes, or more, of the young swallows, perched on some dead branch, or wall, or railing, or barn roof, and fed by the parents; and Mr. Gould's figure of the young is a counterpart of what may be seen every autumn in this country. The familiarity of swallows about dwelling places is also great; and they abound and are favourites, like the Australian birds, from similar causes. The presence of man and animals collects insects; and the annoyance of these tiny tribes hinders molestation to the birds, which soon take up an abode where they receive at the same time protection and food.

---

* P. 170, quarto edition.

Most of the *Artami* migrate, a fact universal among the swallows, and the manner of performing it simultaneously appears similar. "*A. sordidus*," again writes Mr. Gould, "was very numerous in the town of Perth until about the middle of April, when I missed it suddenly; nor did I observe it again until near the end of May, when I saw it in countless numbers, flying in company with the common swallows and martens, over a lake about ten miles north of the town; so numerous in fact were they, that they darkened the water as they flew over it." The migration was, in fact, performing at the same time, and in company by all these birds. It is now known in those countries where some attention has been given to the habits of animals and birds, that swallows, after assembling and preparing, move off in large flocks, and have been met with in vast numbers by vessels at sea, when thus on their journey. A pamphlet published at York in 1815, describing the departure of the swallows at Rotherham, tells us, that "their numbers became daily augmented, until they became a vast flock;" that "on the morning of the 7th October, their mighty army broke up their encampment, debouched from their retreat, and rising, covered the heavens with their legions;" and we have ourselves often witnessed their autumnal congregations, and sudden simultaneous departure. The economical habits are also in many respects remarkably alike. How often do we see our native house swallow, on a close or damp day, perched in rows on the projecting ledge of some building, on a rail, or on some bare branch of a tree, resting or pluming, "sallying forth to capture a passing insect," and after a short excursion, returning to the same perch, regaining its place with a repeated motion of the wings from and to the body. The young, possessing less strength of wing, often huddle together, when a like solicitude is displayed by the parents, both in feeding, and in attempting to make them exert, or as it were, practice themselves in flight. The remarkable habit of the *Artami* clustering like bees to the dead branch of a tree, remains without any suggestion as to the cause by our intelligent author; and the reason is not mentioned, or whether it took place particularly soon before migration, nevertheless, it is a habit not to be lost sight of, a tendency to huddle together, or "cluster," being prevalent among the *Hirundinidæ;* and this is just another link in the chain of alliance. The word "clustering" has been used by many writers in describing the manners of the swallows. "I was travelling, and out early in the morning," writes White of Selborne, "and I could discern, as the mist began to break away, great numbers of swallows, *clustering* on the stunted shrubs and bushes, as if they had roosted there all night." Sir Charles Wager relates, that in one of his voyages home, a great flock of swallows settled on his rigging; "every rope was covered with them; *they hung on one another like a swarm of bees.*" When roosting, this propensity is peculiarly observable; and the vicinity of water seems the most favourite resort after incubation has been completed. We have frequently observed numbers take up their retreat in alder or willow bushes fringing a river side; while in the south, reed beds and willow holts are the favourite resort. They there cluster together, so that "the reeds are bent down even to the water by their weight." In another pamphlet, dated Wilts, 1780, we have the account of a party, who went with torches to a little isle in the Thames, and in less than half an hour brought ashore fifty dozen. "The branches of the trees were loaden with them in such a manner, that they had nothing more to do than to draw them through their hands, the birds never moving till they were secured." The account of the "swallow trees" of America, where thousands of the *Chætura pelasgica* roost in the hollow boles, clinging and clustering around the inside, may be quoted as another instance of this habit being frequent in the family—an instinctive provision for warmth, after the duties of incubation have been completed, and the advance of the season may have decreased the heat.

In the outward form and structure of these birds, we have nothing to militate against their admission among the *Fissirostres* as an aberrant form. The flight and attitudes are all swallow-like or resembling the bee-eaters; and the colours of the plumage equally assimilate with these two forms much more than with the shrikes or drongos. The gape is comparatively wide, the bill dilated at the base, and its strength or robust form is not greater than in *Podargus* or *Eurystomus*, or even than the strong-billed American swallows, forming the genus *Progne* of Boie. The tarsi and feet, if compared with those members in the *Fissirostres*, are strong and powerful; but if looked at in regard to the size and proportions of the birds, there is a shortness and want of development observable, which points out, that they are not essential to any part of the economy of individuals. The claws are strong and hooked, and fitted for giving support by clinging; but as yet, we have no account of the place or manner of roosting employed by the *Artami* when not breeding.

The internal structure of foreign birds, particularly the smaller species, is often very difficult to examine correctly, from the destruction of the parts by spirit or preserving liquor; but however mutilated, whatever notes can be obtained of their comparative anatomy, is worthy of being recorded. From a specimen of *A. sordidus*, presented to us by Mr. Gould, the following notes were taken. It had been preserved in salt, and having been killed with large shot, was a good deal injured:—The sternal appearance of the body, when skinned, gives an idea of power; and although slightly rigid, from the salt in which the birds were preserved, appeared muscular. The general muscular system, nevertheless, except when seen in this aspect, and those connected with flight, together with the skeleton, are weak. The sternum has the keel considerably arched, is narrow at its anterior portion, dilating to the posterior edge, and there cleft for one-third of its length by a wide oval fissure. It approaches to the form of the same part in *Trogon* and *Prionites*, except in having only the one fissure. The upper trachea, with the lateral muscles dividing almost at their origin, and sending a strong lengthened slip to be inserted by expansion into the skin; lower trachea bound down to the opening of the os furcatorius, by a rather strong ligament; sterno tracheal muscles extremely weak; tongue about two-thirds of the length of the bill, large, slightly fringed at the tip.

Stomach of a lengthened oval form, walls thin, the muscular part weak; the epithelium of a thin horny consistence, the rugosities not much developed; it enters the pylorific orifice, and is separated at the upper part from the proventriculus by a fringed edge, the latter perhaps caused by maceration; proventriculus very slightly glandular, the entrance from above without plicæ. The stomach was completely distended with insects, principally minute coleoptera, and of these the thorax, elytra, or legs, remained; no transparent wings could be discovered; the skin of a single large soft-like larva was observed. The insects must either have been powerfully triturated by the action of the stomach, or much broken by the bill of the bird. Cloaca apparently extending for an inch in length, oval, slightly dilated, but not very wide; also filled with the hard parts of insects, passing through in that state.

In *Artamus leucorhynchus*, which Mr. Blyth kindly remitted to us from Calcutta in spirits, the structure generally agreed with that of the Australian species.

In the muscular arrangement of the sternum and pectoral development of these birds, compared with that of the *Herundinidæ*, there is no great difference, according to their relative size, though, in comparison with *Cypselus*, where there is immense power, it is much weaker, particularly as regards the pectoral muscles. In like manner, the skeletons of *Hirundo* and *Artamus* resemble each other, differing from others of the *Fissirostres* in the structure of the sternum. In *Cypselus*, the sternum is remarkable for the depth of its keel, and in the broad posterior margins being entire, and without any fissure, allowing no space to be wanting for the support of the powerful muscles used in flight.* In *Trogon*, *Halcyon*, *Prionites*, *Merops*, *Coracias*, &c., the sternum is characterized by less elevation of keel, and by great breadth of the posterior margins, but which have two fissures of considerable extent. Between the swallows, again, and *Artamus*, except in regard to size, there is a great similarity; both have an elevated keel—both are nearly of equal proportional breadth—and in both the posterior margin has only one fissure, proportionally longest in the swallow. When all these parts are compared with those of the *Fringillidæ*, the marked difference is in the narrowness of the sternum of the latter, particularly at its posterior end.

In the muscles of the lower larynx, the sterno tracheals are as in *Hirundo*, very weak and slender.

The tongue resembles that of the *Fissirostres*, while the structure of the intestinal canal is essentially that of an insectivorous bird, more so indeed than in *Hirundo*. The stomach, in *A. leucorhynchus*, is stronger and more muscular than in *A. sordidus;* in the former it was also crammed with insects *Coleoptera*, *Diptera* and other winged insects; in both it is less gizzard-like than in *Hirundo*. It is in fact more a bag or pouch than a gizzard, the walls comparatively thin, the proventricular dilatation very slight, and there is no indication of any crop as in *Fringilla*. In comparison with the organ in *Trogon*, *Prionites*, and *Halcyon*, it is more fissirostral than in the two first, and approaches closest to that of *Halcyon*, which may be accounted for by the food of the latter being more insectivorous than that of either of the two first. The termination of the canal is in a gently dilating cloaca, the cecal appendages being merely rudimentary, thus agreeing with *Hirundo*.

---

* It is curious, that the nearest resemblance to the sternum of the Swift is found in that of *Procellaria pelasgica*—the more curved or boat-like appearance of which, however, tells that it belongs to an aquatic type.

From these comparisons, then, we are led to the opinion, that the position hitherto assigned to *Artamus* is erroneous, and that its proper station is among the *Fissirostres*, probably immediately after or following the swallows, and leading by them to the bee-eaters, &c., by means of *A. superciliosus*.

Reference to Plate.

a Cypselus.
b Artamus sordidus.
c Hirundo rustica.
d Artamus leucorhynchus.
e Trojon.

MONOGRAPH OF THE FALCONIDÆ,

SYSTEMATICALLY ARRANGED BY

DR. T. T. KAUP.

[OKEN'S ISIS, a German periodical of many years standing, containing, among information of very great interest, a series of valuable ornithological papers, has, we believe, given way to the unsettled state of the continent, and for the present at least has ceased to appear. Dr. Kaup has sent us his Monograph of the *Falconidæ*, translated by himself from that Journal of 1847, as improved in 1848. This paper, as well as Dr. Kaup's classification of birds, is very little known among the ornithologists of this country; and although we cannot subscribe to all the views, however ingenious, detailed in the Monograph, we nevertheless think, that by making it better known, we shall lead to the study and development of those principles which bring us nearer to a true natural arrangement.]

INTRODUCTION.

I HAVE written this Monograph only with a view to prove, by a special exposition, the principles which I have expressed in my classification of mammalia and birds, as a more detailed investigation will enable, and be perhaps more likely to induce, men of science, to enter into a closer criticism than the exposition of an idea, only but generally indicated, could do. How far I have succeeded I must leave to time and to impartial criticism to decide. I made choice of the *Falconidæ*, because this family is very numerous in its members; I mean, that the greater number of them still exist, and that there are no such blanks in it as in the other families of the *Accipitres*.

In examining this family, it became obvious that a large number of *genera* could not remain as such, but must only be considered as *subgenera;* among these are the following: — *Erythropus* = Tinnunculus; *Hypotriorchis* and *Hiërofalco* = Falco; *Strigiceps* = Circus; *Gampsonyx* = Elanus; *Limnaëtus* and *Spizastur* = Spizaëtus; *Micronisus* and *Meliërax* = Astur; *Morphnus*, *Thrasaetus* = Asturina; *Herpetotheres*, *Gymnogenys*, and *Spilornis* = Circaetus; *Ichthyaetus* = Pandion; *Haliastur* = Haliaëtus; *Archibuteo* = Buteo; *Baza* and *Cymindis* = Pernis; *Daptrius* and *Milvago* = Ibicter.

As nominal subgenera, the following have resulted: — *Pœcilopteryx* = Ictinia; *Hydroictinia* = Milvus; *Craxirex* = Astur; *Buteogallus* = Rupornis; *Spizigeranus* = Rupornis; *Brachypterus* = Herpetotheres; *Avicida* = Baza.

Having indicated five fundamental types always recurring in the families of *Accipitres*, as well as in the subfamilies and genera of *Falconidæ*, I have shown how, by a misunderstanding of these, all ornithologists have been led to make use of them in the most diversified ways, in order to connect the genera and subgenera. Since they have not as yet been arranged under their true genera in any work on natural history, it may be conceived how Vigors and Swainson were not able to succeed in carrying through the quinary system; not to mention that their arrangements were not founded on any consistent basis, since they had not comprehended the well-founded theory first proposed by Oken.

By my investigation of the *Falconidæ*, I think I shall also show on what weak foundations our present systematizing rests, and how the use of analogies, in order to connect families, subfamilies, genera, and subgenera, opens the way to arbitrary arrangement; and how, for instance, the existing *Falconidæ* might be arranged in a thousand different ways without exhausting it. It is not, however, my intention to show here how the families, subfamilies, genera, and subgenera, may be connected according to erroneous analogies, since this has been more than sufficiently shown already, by ancient as well as modern ornithologists.

In a fit, as I think, of just chagrin, I gave a prescription (in the Isis, 1847, p. 47) how many hundreds of systems of the *Falconidæ* may be contrived, which all might present some show of being founded on nature. However, I rather doubt whether this ironical treatment will save ornithology from new systems, in which all forms will be knit together, like a string, by wrongly used analogies, though the authors of such systems might anticipate that their arrangements harbour death in the core, and will enjoy but a short lived existence.

One of the principal mistakes in ornithology, as I already observed, is, that subgenera are considered as real genera, and that on their first appearance they are not arranged under their true genera. The consequence of this mistake is, that the subgenera which belong to but one large genus, are torn asunder, and put into a variety of subfamilies, according to wrongly conceived analogies.

Thus the subgenera occasion the greatest confusion, and thus are particularly apt to puzzle the student of ornithology, who enters into science with a true sense of nature. If, however, the subgenera are arranged at once under their respective true genera, then they are an advantage to science, for they facilitate the survey, and make it possible to give short and precise distinctive characters to the species. Thus the mistake is avoided of marking the species of one part of the globe with the characteristics of subgenera, as has been done by Count Kaiserling and Blasius in their works, which in other respects possess much merit. How far I have done well to dissect genera like *Circus* and *Nisus*, &c., into their minutely varied subgenera, I must leave to be decided. I was partly obliged to do so, because other genera, as, *Circaetus*, *Pernis*, *Elanus*, *Haliaetus*, *Pandion*, *Ibicter*, &c., are divided into subgenera already known, whose characteristics are more obvious, though they are of no more consequence than those of the subgenera of *Circus* and *Nisus*. The characters indicated by me are, however, by no means difficult or minute, and may be easily recognised.

If I made *Circus cinerascens* and *pallidus* into a subgenus, I did it not only on account of the short secondaries *(arm wings)*, the long primaries *(hand wings)*, and the small number of emarginated quills; but because, according to my principles, the *Nauclerus* or swallow type is expressed by wings thus constituted. That both species get only in their third year the plumage of the old ones, and that the plumage of the middle age is so different from both, I consider as yet but as a secondary character, which, however, may contribute to make us consider this little group to be perfectly characterized.

By similar characters, as essential, the other subgenera are respectively distinguished. But by writing always *Circus cineras-*

cens, and not *Glaucopteryx cinerascens*, I mean that I shall never approve of giving to these subgenera the importance of true genera. If this should be done (and with some nicely distinguished subgenera, viz.—*Herpetotheres*, *Gymnogenys*, *Spilornis*, *Circaëtus*, *Poliornis* of the genus *Circaëtus*, &c., it has been done long ago) then the now generally adopted sense of genus would be overthrown again. The subgenera, as made use of by me, will prove an easy means to men of science and research, and will bear out by their characters the repetition of their five different types.

Whether my opinion and its consequences, viz., that each family is to be considered as one whole, confined to itself, and that consequently no double or similar names of species are to be tolerated in it, will hold good, must be left to ornithologists of superior intelligence to decide. With respect to the *Falconidæ*, I was obliged to give to several species new names on that account. Such a consistency offers the advantage, that each species of a family, when speaking of it, may be pointed out accurately without naming the genus, and yet every mistake be avoided.

Against my way of mentioning the authors, since I always indicate the discoverer of each species after its name, even if he has not put it in its proper genus, warm objections have been urged by my worthy and learned friend, Mr. G. R. Gray, who is so highly distinguished by his multifarious knowledge; and I must own, that my way of writing may be apt to lead astray, not scientific men, but beginners among zoologists, since they will vainly search in ancient authors for genera like *Hierax*, *Harpagus*, &c.

Much sensation has been already occasioned by my having dethroned the *Accipitres*, those birds of heraldry, from the high station which they have occupied since the days of yore, and by my placing them where nature meant and made them to stand.

All objections, however, may be easily refuted by asking the simple question. You zoologists (who, imitating Linnæus, have placed the *Accipitres* and the ugly vultures at the head of all birds), why do you not give to the cats and the tiger the first place at the head of all mammalia, as Pallas proposed to do? If the *Psittacidæ* are analogous to the *Primates*, then the *Accipitres* cannot be so too. The man who lays down a system, cannot be induced either by the beauty of the form, or by the courage, the voraciousness and cruelty, which is the nature of some *Accipitres*, to assign to them the first rank among birds. This station has been given to them partly on the ground of a wrong idea of analogy, because the *Falconinæ* of the *Falconidæ* reproduce the *Psittacine* type, though, according to their whole nature, they belong to the fourth stem; and perhaps, also, there may be something of a slavish feeling, which is apt to consider blood-thirsty tyranny and the wrath of destruction, as marks of grandeur, which may have influenced the making of this arrangement.

Were I to comply with the common usage, were I to place the *Aquilinæ* at the end of the *Accipitres*, and force *Pandion* to stand the last of them, in order to arrive at the rapacious group of *Lestris*, furnished with a cere; or did I close with the *Gypaëtus*, to connect them by *Tachypetes* with the *Pelicanidæ* and *Natatores* as they are called, there would then be a better prospect of my arrangement finding some acceptance. I cannot, however, follow the beaten track, because I consider the *Accipitres*, like the *Longipennes*, &c., to constitute a particular sub-order of themselves, in which the types reappear in the families, subfamilies, &c., and because, by pursuing this course, science would come to a stand still and become unfit for farther improvement. While I must blame the attempts which have been made to connect birds into one series, by means of analogous forms, in like manner I must think it altogether erroneous if men, distinguished by genius and science, endeavouring to systematize on a large scale, think, that either by anatomy, or some exterior characteristic alone, they have found the "philosopher's stone," and that by means of a large order like the *Ornithes (Passeres)*, as they call them, they may make divisions of large groups. These enemies to sound system, of whom some recent renowned anatomists, as T. Müller, &c., are the chief, are forming a school, which, alas! seems to condemn all those who think they have reason for pursuing an opposite course.

If from the existence or the want of some small muscle of the lower larynx, anatomists think they have reason to exclude from the order *Ornithes* all the birds which are not possessed of the apparatus of singing muscles, and to separate the *Cypseli* from the *Hirundinidæ*, *Ampelis* from *Bombycilla*, *Pitta* from the *Turdinæ*, &c., &c., then I must confess, that from such a method consistently pursued, the most artificial system will result. Such projects are truly worthy of Professor Müller's discreet expression, "Where is a fish swimming" (or a bird flying), "which sets not at nought all our systems?"!

If all men of science who attribute so much importance to a small and partial characteristic, would put the question to themselves, What renders a bird a bird? What constitutes the *Ornithes* to be *Ornithes?* — they would easily have found, that the apparatus of the singing muscles is a characteristic of a true bird, and of the whole class, for the same characteristic occurs in no other classes. If, consequently, they would farther have reasoned, that all *Ornithes*, possessed of this apparatus, must necessarily represent the noblest type of a bird, either as a family, subfamily, or genus, I believe they would never have thought of tearing asunder forms so intimately connected by their main characters. The *Cypseli*, with their enormous jaws, short secondaries, and long quill-feathers, with their four toes mostly turned forward, and sharp claws; with their great voracity, the inartificial structure of their nests; surely these do not represent the singing bird in the family of *Hirundinidæ;* but yet to separate them altogether on that account, and because they want the apparatus of the singing muscles, cannot enter the mind of any one whom scholarship has not deprived of all sense of natural order. Still more, to unite the *Cypselinæ* as an order of the *Macrochires*, Nitzsch, with the *Trochilidæ*, as my honoured friend Sundeval has done, would betraya want of discernment, and a false application of analogies.

The family *Trochilidæ* represents the sub-order *Tenuirostres*, the true bird type, as the *Cypselinæ* among the *Hirundinidæ* do in their sub-order of *Fissirostres*. The *Hirundinæ* represent the first and noblest type among the *Hirundinidæ*.

If scientific persons, with such principles of analogies and affinities, say and think that the *Cypselinæ* represent the *Hirundinidæ* in the order of *Clamatores*, then I must confess, that I don't think them possessed of the right sense of either analogies or affinities. From all these arrangements, it would appear that men, otherwise most capable, if preoccupied in favour of some particular characteristic type, will in accordance with these, and in defiance of nature itself, tear asunder the most natural connections, merely to unite forms like the *Cypselinæ* and *Trochilidæ*, which in all other respects are totally dissimilar. Betwixt the *Cypselinæ* and *Trochilidæ* there can be no question of any affinity, they are merely in their respective sub-orders, analogous forms, whereas the *Hirundinæ*, *Cypselinæ*, *Podarginæ*, *Caprimulginæ*, show real affinities. The analogous forms may be separated by sub-orders, which never can take place with affinities of form.

If these gentlemen would give up their false application of analogies, and make their anatomical knowledge serviceable for the discovery of the characteristics of a single genus, and be guided by their pure sense of nature, how speedily and gloriously would our science improve.

To bring the coverings of the tarsus and the number of the quill-feathers into accordance with the existence or the want of the apparatus of the singing muscles, as Cabanis has done,* I own is meritorious; but to use these peculiarities as characteristics of order and sub-order, is, according to my judgment and knowledge, altogether wrong. The feathered tarsus is a characteristic of a true bird, and a vestige of it appears in *Nisus*, to which I have assigned the second rank of the third subfamily, *Accipitrinæ*, like the rank of the class birds. This genus, however, occupies by no means the highest rank; and besides, no ornithologist will place the *Falconinæ*, which have no indication of this character, as members of the first subfamily, and *Nisus* as the second genus of the third subfamily, *Accipitrinæ*. The capricious suggestion, that the feathered tarsus is to indicate the highest order of birds (*it only constitutes a true bird*), will generally not succeed, since a tarsus covered with very small scales or feathers, stands nearer to the naked or hair-covered foot of mammalia, than a tarsus covered with scuta, or small scales, which is surely more analogous to the covering of the feet of reptiles. In spite of that, however, neither the *Strigidæ*, where the tarsi and toes are mostly feathered, can be placed above the *Falconidæ*, nor *Elanus*, with its finely grained scaly tarsi, above the *Falconidæ;* it is only a partial character, analogous to the mammalia, while other decisive marks are wanting.

I must openly avow, that I have not been so fortunate as to find altogether, decisive characters by which to designate in a few words the subfamilies of the *Falconidæ;* yet, nevertheless, I am firmly convinced, that the genera are rightly arranged. I might have osteologically pointed out the *Falconinæ* by the quasi tooth in the *jaw-bones*, and by the round nostrils bored in the *nasal-bones*, if *Ictinia*, the subgenus *Baza*, *Ibicter*, and *Polyborus*, had not partially the same characters, and if *Harpagus* had not the nostrils covered with a soft membrane. Nevertheless, I am sure, no ornithologist will say, that *Harpagus*, with its wings like *Nisus*, is an Accipiter, or *Ictinia*, *Baza*, *Polyborus*, *Ibicter*, are true falcons. If I could exclude the Accipitrine type *Circus*, from the third rank of the subfamily *Milvinæ*, I might with some reason distinguish these latter by their long wings, short tarsi, toes, and more or less deeply forked tail, if the subgenus *Gampsonyx*, which has short wings and no forked tail, did not constitute an objection in its entire form. However, it is a true *Elanus*, and cannot possibly be separated.

---

* Wiegm. Arch. 1847, p. 186.

It must be observed, that the whole of the *Accipitrinæ* have not high tarsi and short wings; and in *Aquilinæ*, particularly in the genus *Cercaetus*, all forms of the wing exist, most fatally perplexing the present arrangement; and also all sorts of tarsal coverings, feathers, scuta, and scales occur. The same is the case with the *Buteoninæ*.

With respect to the subfamilies, I can only explain or lay down this rule, that in one exclusive genus, one particular type is clearly exhibited, which gives its proper rank to the genus and subfamily, and that the other genera are grouped according to the type which is prominently exhibited in them.

The *great question*, how the members of the *Falconidæ* generally range themselves together as members of a subfamily, cannot be answered, because the main character may be felt and yet not expressed by words. In a word, the forms must agree with one another, like the verses of a good poem. As to the poet, no rules can be prescribed by academics, so no receipt can be given the zoologist, how he is to arrange the forms without deviations. He must bring into his science an innate and high sense of *adaptation*, without which he will ever remain a bungler. With this sense, and with the help of philosophy, the forms of life must be studied in order to hit the truth, when making arrangements in collections.

Before concluding these remarks, I feel it a duty to express my warmest thanks to my friends and patrons, particularly to C. L. Bonaparte, Prince of Canino, Messrs. Bruch, John and George Gray, Gené, Gould, Homeyer, Horsfield, Jäger, Mitchell, Count Von der Mühle, Rüppell, and his Royal Highness the Prince of Wurtemberg, who have so liberally seconded my endeavours, either by written communications, or by furnishing me with valuable materials. To Dr. Rüppell I owe the means of laying the first foundation of my labours, as he allowed me the fullest use of all the materials in the Senkenberg Museum, and furnished me with nearly all the literature required. Once more, I offer my sincerest thanks to this noble-minded gentleman.

The greatest personal gratitude, however, I think due to my honoured friend, Mr. George Gray, who, sacrificing his very scanty leisure time, gave me all the aid in his power, and essentially facilitated my researches in the British Museum. We had silently agreed to correct our respective opinions, and to admit none without the severest criticism. What in the Synonymy belongs either to Mr. G. Gray or to myself, will appear by Mr. G. Gray's List of the Specimens of Birds in the British Museum, Part I., *Accipitres*, which, with all its little imperfections as a first essay of so gigantic a labour, has served me as a most solid guide. Therefore, once more, I repeat my warmest thanks to him who has favoured me, besides, with so many marks of friendship, the recollection of which will ever be dear to me, as it must be to all who know him.

Probably few readers of this Monograph will be acquainted with my classification of mammalia and birds; and I expect, therefore, to be asked by them, "Why are the *Accipitres*, and the families, subfamilies, the genera and subgenera of them arranged thus, and not in another way?" For this reason, I think it a duty to my readers, to explain the principles of my arrangement, of which a well laid foundation appears to be of vital importance to the whole system. However, before entering upon the subject, I must observe, that I presuppose a considerable knowledge of forms, because I am often obliged to anticipate, and to my regret, I cannot give drawings of all the genera. I also must beg my readers to set themselves free from their prepossessions in favour of any systems, in order to be able to follow impartially my investigations. The happy few who have large collections at their disposal, I would advise to study the actual forms which I adduce, in order to test my opinions and judge for themselves. Before, however, introducing the reader to my arrangement of the Falcons, I must first exhibit the classification, not only of the class of birds, but also give a sketch of that of all animals, because the special arrangement may not be understood without a survey of the whole. I must even go farther, and point out the anatomical structure of the animal body, and how the organs of the senses, which are the principal members of the systems, appear in the different classes. In this doctrine I follow my worthy friend Oken; and I only differ from him in one point, viz., that I recognise in the *Insecta* and *Radiata* the same systems as in the true animals.

The animal body consists of the following systems, of which I suppose one to attain perfection in each single class of the animal kingdom.

I. The *system of the nerves*, whose prime member is the *Eye*. It is only affected by the light, and like the nervous system, it attains in man, of all the Mammalia, its highest perfection.

II. That of the *organs of respiration*, to which the *Ear* corresponds. It is sensible only to the air in motion, and like the respiratory system, it attains its perfection first in the class of Birds.

III. That of the *bones*, to which the *Nose* corresponds, with its fine filligree nose-shell, covered with nervous membranes. It is only affected by the air when pregnant with particles of certain substances. In the Reptiles, there first appears a pierced nose, respiring the elastic air.

IV. That of the *nourishing organs*, to which the *Tongue* corresponds. It is sensible only to substances which dissolve in water. It generally appears first in the class of Fish, and there, is very complicated in the ligaments of the tongue, that support the gills, which are the representatives of the respiratory organs.

V. That of the *organs of the membranes*, to which the *Genitalia* or sexual organs correspond. They are only sensible to warmth and cold. They appear, conjointly with the genital organs, very complete in the Mollusca.

These five classes, in which the five systems which have been pointed out appear, make of themselves a particular subkingdom, which may be classified, even if the other two subkingdoms did not exist on earth. In the last two subkingdoms, viz.—*Insecta* and *Radiata*, the same systems appear, but much less clearly indicated; and I only cite the single classes, because they illustrate each other, and aid reciprocally to prove the propriety of their arrangement. Thus, for instance, the Spiders are the nerve animals, the Insects are the respiratory animals, the *Crustacea* are the bone, the *Annelides* are the nutrition, and the *Cirrhipedes* are the genital animals of their kingdoms. As the birds have their proper station only betwixt the mammalia and the reptiles, we have the insects as being analogous to the birds, their true station, betwixt the *Arachnides* and the *Crustacea*. For these reasons I give a survey of all the classes.

A. TRUE OR REAL ANIMALS.

I. Mammalia. II. Aves. III. Reptiles. IV. Pisces. V. Mollusca.

B. INSECTA.

I. Arachnides. II. Insecta. III. Crustacea. IV. Annelides. V. Cirrhipedes.

C. RADIATA.

I. Echinodermata. II. Acalephæ. III. Zoophyta. IV. Entozoa. V. Infusoria.

Since the subkingdoms B and C are constructed according to a wholly different type, and betwixt them and the members of the true animals, only analogies exist, but no affinities, it suffices to define only the classes of the true animals, in order to get the means for fixing the station of the single members of each class.

The first subkingdom consists of the classes—

I. MAMMALIA. II. AVES. III. REPTILES. IV. PISCES. V. MOLLUSCA.*

I. Class Mammalia.—I call them, with good reason, nerve-animals; because in man, being the only ideal of a nerve-animal, we observe the most perfect and largest brain, and the most complete eye. Man, in whom reason has arrived at its highest possible perfection, and who in his highest race, the Caucasian, has attained to self-consciousness, which reflects the universe, claims to himself the first rank as family to the primates as order, and to all mamalia as *Class*.

Oken † calls the mammalia, eye-head, or by my researches, nerve-animals.

If we look in the class of birds for an order in which the largest brain, the most perfect eye, and the greatest sagacity of bird is to be found, and which have most analogies to man and to the primates, we shall find *no other family* than that of the *Psittacidæ*. As man gives to all primates the first rank as an order, so the *Psittacidæ* give to the *Zygodactylæ* (*Scansores*) the first rank as an order.‡ It is not in the root or stem, but in the flower and fruit that we best recognise a plant.

The family of *Psittacidæ*, which give to the *Zygodactylæ* the first rank as an order, represent the type of mammalia or nerve-animals in the clearest way; they therefore represent *one* of the five types of the class of birds. Hence, if only speaking of birds, we may translate the denomination of nerve-head or eye-bird into that of parrot-type, which implies the same.

Let us now resume the characteristics, which, with respect to body and intelligence, are inherent in this type, and let us inquire whether in other orders we find forms of which we may say, that by a large brain, more perfect eyes, and much sagacity in their habits, they represent the nerve-bird or *Psittacine* type.

---

* The reader will not be startled at my having comprehended the *Mollusca* among the higher animals; it is not for the sake of the *quinary* system, but from reasons which will clearly appear to the reader from the further perusal of my researches.

† Oken called the mammalia, sense; the birds, nerve; the reptiles, muscle; and the fish, bone—animals.

‡ That Vigors and others classify a part of the *Zygodactylæ* with the *Passeres*, arises from an erroneous application of analogies.

The *Psittacidæ* show a fine oval scull, the eye-socket almost closed; fine and moderately large eyes, of which they can open and contract the pupil at will; the nostrils bored into the nasal bones; cere, the upper mandible large, curved from the broad front, on the sides emarginated, overhanging the short lower mandible, which is turned upwards and emarginated on the sides; the point of the bill shows, on the flat of the mouth, a file-like protuberance; the bones of the palate descend towards the throat; the tongue is thick and fleshy; the breast-bone is entire, with two round holes towards the posterior edge; the tarsi are short, with fine granulate scales; the exterior toe is turned backwards—the toes are finely scaled; the wings, though perfectly developed, are not constructed for flying far over the seas. The greater number of them are ornamented with beautiful green and other brilliant colours. They are mostly true tree-birds, living upon vegetable food; they climb with the aid of their bill; use their feet like hands, carrying with them their food to their mouth. Their droll habits are only to be compared to those of the monkeys; they are equally coaxing, capricious, dainty and malicious. They may all be tamed, and learn to bear confinement. Some may be taught airs, and to imitate spoken words.

Now, if we find these characteristics in other families existing in a more or less number, or but indicated, then we give to them the first rank in their suborders, families, &c.

Thus we see in the *Fringillidæ* the bill resembling that of the *Psittacidae*, using their bill in climbing *(Loxia)*; parrot-like plumage *(Psittirostra)*; a fleshy tongue *(Fringillidæ)*; the gift of imitating *(Pyrrhula)*; an aptness to be tamed and trained; therefore we assign to the *Fringillidæ* the first rank among the *Conirostres*, which with the *Fringillidæ* exalt themselves to the first suborder of all *Passeres* or *Ornithes*.

In no other suborder of the *Ornithes*, as *Fissirostres*, *Syndactyli*, *Dentirostres* and *Tenuirostres*, is there a family to be found which shows such a number of analogies with the *Psittacidæ* as that of the *Fringillidæ*. The *Fringillidæ* are then the true *Psittacine* type of *Ornithes*.

In the third order, *Grallæ*, the Parrot-type is however faintly indicated in the *Charadridæ* by a finely rounded scull, large brain, large expressive eyes, and sagacious demeanour; and I had therefore at first some doubts whether I had hit the truth in assigning to this family the first rank in the suborder, *Pressirostres*. That they, however, are organized in a superior degree, will appear from the definition of the other suborders — *Longirostres, Brevipennes, Cultrirostres*, and *Macrodactyli*.

Far more visible is the Parrot-type in the *Falconinæ* of the *Falconidæ*. Finely vaulted scull; large brain; expressive eyes — an inclination to close the socket of the eyes; cere, a short upper bill, curved from the large front, emarginated on the sides, and on its tip with a protuberance on the palate, hanging down over the lower mandible, which is obtuse, emarginated on the sides and curved upwards; round nostrils, bored into the bone of the bill; using the feet like hands to catch their prey, and to carry their food to their mouth; and a great aptness to be tamed and trained, give to the *Falconinæ* the first rank as a subfamily among the *Falconidæ*. The *Falconidæ* give to all *Accipitres* the first rank as a suborder, in the fourth order or stem, *Ichthyornithes*, with the suborders I. *Accipitres;* II. *Longipennes;* III. *Brachypteri;* IV. *Totipalmati;* V. *Lamellirostres*.

Among the *Falconinæ* (first subfamily of the *Falconidæ*) I assign the first rank to the genus *Hierax*, on account of their large head and their supposed higher mental development. The black eye-region, cere and feet, indicate also the parrot-type. Anatomy and a closer investigation into their way of living will justify this assumption; the more so, since in the other genera of the *Falconinæ* — *Tinnunculus, Harpagus, Falco, Ieracidea* — the other types are more clearly expressed, which will appear as we proceed with our investigations.

Among the second subfamily, *Milvinæ*, the genus *Ictinia* (Vieill.) takes the first rank, because as a genus it is the only one whose bill is furnished with a tooth and a protuberance on the palate, and on account of their lower bill being obtuse at its tip and furnished with a fine emargination on the sides; besides, they have exterior small round nostrils, which all are analogies with the *Falconinæ*. *Ictinia* is therefore the *Falconine* type of the second subfamily, *Milvinæ* — such as the second subgenus *Erythropus* (*T. vespertinus*) of the second genus *Tinnunculus* among the

Falconinæ, represents the *Milvine* type, as expressed in *Ictinia.* These are the reasons why *Tinnunculus vespertinus* (particularly the male) are so like *Ictinia* in the construction of the wings and the colouring of the plumage.

I attribute the first rank to the *Spiziaëtus* in the third subfamily, *Accipitrinæ:* because in this genus we observe the vaulted bill, beginning from the cere; and because we see in their feathered feet, and in their toes, covered with fine dissected scales, an approximation towards the mammalia; besides all this, they are the noblest creatures in their whole subfamily.

For the same reasons does *Aquila* take the first rank as a genus among the fourth subfamily, *Aquilinæ.* A bill curved from the cere, however, exists only in their first subgenus, *Hiëraëtus* (*Aq. pennata et morphnoides*), they are the noblest forms in their whole subfamily. Among the last subfamily of the *Buteoninæ, Buteo* takes the first place; because the first subgenus, *Archibuteo,* with their feathered tarsi, are obviously the noblest of their genus and whole subfamily. Among the *Gallinæ* (fifth order) the family of *Cracidæ* take the first rank, on account of their vaulted and curved bill; their graceful attitude and sagacity, also at once indicate their rank.

We have assigned to the *Psittacidæ* as a family—and in this, as the highest member to the *Zygodactylæ*—the first rank as an order. Among the *Ornithes* (*Passeres*), we have given to the *Fringillidæ*, and by them to the *Conirostres* as suborder, the first rank. We showed it to be reasonable, that the *Pressirostres* among the *Grallatores,* the *Accipitres* among the *Ichthyornithes,* and the *Cracidæ* among the *Gallinæ* should occupy the first rank; we may now proceed to characterize the class of birds, and we put the question: *What is it which makes a bird to be a bird?* After having found out the true bird type, and abstracted from this the characteristics, it will now be an easy task to give to all the suborders and families which represent the true bird in their order, suborder, &c., their respective second rank, which is the very same second rank which the class of birds itself represents in the first subkingdom of real animals.

In the second class of birds, the system of respiration, from which the organs of circulation cannot be separated, is particularly perfect. In this class there exists, without any exception, an open ear, which is fitted to receive melodious sounds, and to repeat them by a particular muscular apparatus on the lower larynx. In all birds, moreover, some bones even take part in the respiration; in many birds we find oxygen to be conducted through air-sacks, even into the intestines, in order to bathe them in that element of bird-life. No class consumes a greater quantity of oxygen than that of birds, and two sparrows, for instance, inhale more of it than a rabbit which weighs many times more than they. Their lungs and blood are therefore of a lighter red colour, and their blood is some degrees warmer than that of the mammalia. Their pulse beats on that account more forcibly, and is rather like that of a feverish mammal. The greater number of them have a loud, and in proportion to their size, an enormous voice, which they make frequent use of in gladness and sorrow. As a whole, birds may be called rather small than large, rather light than heavy. Nearly the greater number of them are active, swift flyers, mounting high into their element, the air. In this class, we see the wings developed in length at the cost of the feet.

The muscles of the breast are in most of them enormous; in like manner is the crest of the sternum, on which the muscles are attached. In this class we first observe the most artful construction of nests, and the most melodious sounds of voice. Birds are, according to Mr. Oken, *Ear-breast*; and by my researches, *Respiration-animals*.

In the class of birds, there is an order possessed of the most sensible ear, the most melodious voice, the most artificial construction of nests, the largest breast, the highest sternum, the longest wings, the shortest tarsi, the smallest, almost ærial, forms, with the greatest irritability; it is the order *Passeres* (*Oscines* sive *ambulatores* et *clamatores*), which I have called *true birds*, *Ornithes*, since all other names are improper. In like manner as the *Aves* do as a class, so must the *Ornithes* as *Bird-birds* take the second rank as an order.*

---

* From this it will appear how useless the endeavours of some ancient and recent Ornithologists are, to vindicate the first rank to the singing birds; since these, as the fundamental forms of all birds, must occupy the same rank which the class of birds must occupy in the first subkingdom. That classification could only be proposed by persons who would not recognise the nerve-element in the *Psittacidæ*, or with other words, could not acknowledge the mammalian type in them.

In the second order of *Ornithes* is a suborder, in which appear the longest wings, with the shortest secondaries and covers, and longest quills,* the strongest breast-muscles on the largest chest, with almost the want of a belly, the shortest tarsi, which show the greatest activity of flight, whose voice ever sounds even while they are flying, and that fabricate the most artificial nests; it is the suborder, *Fissirostres* (Cuv.), as I have modified or defined it.

Like the *Aves* as a class, the *Ornithes* as an order, thus must the *Fissirostres* in their order, take the second rank as a suborder.

In this suborder there is a family in which all the above indicated characteristics appear most obvious; it is the family of *Hirundinidæ*, which, as a family, occupies the second rank. In this, THE FUNDAMENTAL TYPE of all birds is to be looked for, which in a strict monographical exposition of this family will be found. This type must be searched for in the *Cypselinæ;* and if found in them, it will show the shortest secondaries and covers, and the longest quills, the shortest tarsi, broad sole on the toes, &c., &c.

According to the characteristics abstracted from the *Ornithes*, the *Fissirostres* and the *Hirundinidæ*, the following classifications will appear as belonging to the second rank.

The family *Cuculidæ* represent the second family among the *Zygodactylæ*, on account of their long wings, with emarginations on the tip, short tarsi rhythmical voice. They are, as a family, the only true birds of this order.

The suborder, *Longirostres*, Cuv., represent the second rank among the *Grallatores*, because among them appear the smallest and nimblest forms, the longest secondaries and covers, the shortest quills, the shortest tarsi, and the first melodious sound in the bird-call.

The suborder, *Longipennes*, Cuv. (fourth order, *Ichthyornithes*), because in the *Sterninæ* and *Procellaridæ*, there appears a great likeness to the swallow type in the long wing. short secondaries and covers, emarginated on the tip, long quills, and deeply forked tail. A trace of an artificial nest by the *Sterninæ*.

The family *Columbidæ*, among the fifth order, *Gallinæ*, because in them appear the longest and most pointed wings, great activity of flight, the shortest tarsi, the smallest forms, rhythmical voice, a kind of song to entertain the brooding female, a trace of an artificial nest, feeding the young ones from the crop, and pairing with one mate, &c.*

---

* M. Kaup translates these *arm-wings* and *hand-wings*.—See plate.

If we transfer these analogies to the *Accipitres*, we shall find that the *Strigidæ*, on account of their large ear-holes, very sharp hearing, most nimbly built body, very long wings, and according to their analogies with the *Caprimulginæ* (fourth subfamily of the second family *Hirundinidæ*), must occupy the second rank as a family of the *Accipitres.*

If from the *Ornithes*, *Fissirostres*, and *Strigidæ*, we apply the analogies to the *Falconidæ*, we find that the swallow type, NAUCLERUS, claims the second rank as genus, and *Milvinæ* as subfamily. In *Nauclerus*, we see short secondary and long quills, extremely short tarsi, which are broad near the toes, short toes, deeply forked tail, of which the exterior feathers *are much longer* than the middle ones. This is a swift flyer and eater of insects.

The analogies abstracted from the *Ornithes*, *Fissirostres*, *Strigidæ*, and *Nauclerus*, assign the second rank to the following genera, in which these characteristics partly appear.

In the first subfamily, *Falconinæ*, the subgenus, *Erythropus*, of the genus *Tinnunculus*, shows a short hand and long quills, short tarsi and toes, feeding on insects, flying after food until twilight. By these characteristics, *Erythropus* (*T. vespertinus*) assumes the second rank as subgenus. *Erythropus* claims to itself and to *Tinnunculus*, as genus, the second rank to *Falconinæ*.

In the third subfamily, *Accipitrinæ*, we observe in the genus *Nisus*, and subgenus *Tachyspizia (solœnsis)*, the most pointed wings, the smallest nimblest and most graceful forms, and minutest nearly imperceptible scales on the tarsi, which resemble the booted foot of many *Ornithes.*

In the fourth subfamily, *Aquilinæ*, we find in the genus *Helotarsus*, the longest and most pointed wings, a short doubly forked tail, great agility in flying, and some analogies with the *Strigidæ*.

In the fifth subfamily, *Buteoninæ*, the genus *Pernis* shows many analogies to the Cuckoo and Doves, and like the *Ictinia* and *Nauclerus*, a broad sole of the hind-toe, and very short tarsi. They commonly feed on insects and their eggs.

---

* How the doves could have been separated as an order from the *Gallinæ*, even in our days, is not easily conceived, by those who had eyes only for analogies, the affinities were not discerned.

According to the analogies which we observe in the class of birds, we have assigned the second rank to the *Ornithes* as an order, invariably for all times; we have further shown, that the *Cuculidæ*, among the *Zygodactylæ;* the *Longirostres* among the *Grallatores;* the *Longipennes* among the *Ichthyornithes;* the *Columbidæ* among the *Gallinæ*, as a family or suborder, representing the *Swallow* type, must occupy the second rank, like the whole class of birds among the first subkingdom. We have among the *Accipitres* assigned the second rank to the family, *Strigidæ;* and from abstracted characteristics, we find that *Nauclerus*, and its whole subfamily, *Milvinæ*, as well as the genera *Tinnunculus* (*Falconinæ*), *Nisus* (*Accipitrinæ*), *Helotarsus* (*Aquilinæ*), and *Pernis* (*Buteoninæ*) occupy the second rank.*

In the first suborder, *Conirostres*, represented as the swallow type, the second family, *Artamidæ*.

The same type is represented by the family, *Meropidæ*, among the *Syndactyli*. Long wings, with emarginations on the tip of each feather; the tail-feathers on the tip emarginated; and the two middle feathers elongated. The whole family consist of eaters of insects.

In the fourth suborder, *Dentirostres*, Cuv., the swallow type is represented by the second family *Oriolidæ*, by the longest wings, very short tarsi, and being the best flyers.†

In the fifth and last suborder, *Tenuirostres* is the swallow type, very clear in the second family *Trochilidæ*.

In other orders or families, the swallow type is not less clearly expressed.

The second family *Glareolidæ*, in the suborder, *Pressirostres* of the *Grallatores*. Very short secondaries, very long and pointed quill-feathers, forked tail, short feet, and very large and broad mouth; swift or strong flyers, and eaters of insects.

Among the *Brevipennes* is the subfamily *Apterycidæ*, from Australia, in the form of the bill (like the bill of *Scolopax*) the bird-type not very clearly expressed.

Among the *Cultrirostres*, Cuv., Kaup., this type is represented by the family *Tantalidæ,* and among the *Macrodactyli* perhaps by the family *Rallidæ.*

---

* From this position, it is evident that forms like *Pernis cuculoides*, *Nisus solænsis*, *sive cuculoides*, T., were compared with the cuckoos. These are analogies but dimly expressed, which partly gave birth to some names of species.

† The true swallow type is hitherto not discovered.

Among the suborder, *Brachypteri,* the swallow type is not clearly expressed in the family *Uridæ,* but it is very clear as the genus *Tachypetes* among the *Pelicanidæ.* Very long quills and short covers and secondaries, very short tarsi and forked tail; this is an able and perhaps the most energetic flyer among the whole class.

Among the *Lamellirostres,* the swallow type is represented by the family, *Anatidæ,* and among the *Tetraonidæ,* by the genera *Pterocles* and *Syrrhaptes.*

Having now assigned the second rank to all the suborders, families, and subfamilies, which represent the true *Ornithes* or swallow type, we now return and ask ourselves, What is it that constitutes the third class? Reptiles, what are they? What is, in fact, the distinguishing characteristic of a reptile?

In the third class, the reptiles, the system of the bones has arrived at its highest possible perfection. In no other class do we find the vertebral column so strongly expressed as in this one; here it shows the greatest number of vertebræ and ribs.—(100–300 vertebræ with ribs among the serpent.) In this class we find such a *mass* of bones (*Colossochellis, Iguanodon*) as in no other; it contains the longest and most enormous forms of creation. Among the reptiles, being the counter part of the birds, we see the hind-legs often elongated, developed at the expense of the small fore-feet, as in the *Frog, Lacerta, Agamidæ, Crocodilidæ.*

In this class appear the shortest as well as the smallest and the most variable number of toes; and generally also in animals belonging to it, we first observe extremities really divided into fingers, comparable to those of the mammalia. The muscles are not in proportion to the enormous mass of bones; this with their smaller consumption of oxygen, and the slow circulation of their blood, makes them to be inert creatures, which, during a greater part of the year exist in a state of lethargy. In this class first appear two pierced nostrils, respiring the elastic air at the end of a head, often very much prolonged (*Crocodilidæ*). The greater number of the reptiles love humidity, morasses, though there are many of them also living upon trees or in deserts.

They are *Nose-bone-torso* or *vertebræ* animals. If we apply these characteristics to the class of birds, and look about for analogous forms, which, in their own class we may also distinguish as *Nose-bone-torso*, or *vertebræ* animals, we shall only find the *Grallatores*.

In this order we see the longest vertebral column with the greatest number of vertebræ,* the most gigantic, longest and meagrest forms, with the longest neck, the shortest wings, the longest legs, the shortest toes, with the most variable number (2–3–4) of them; among them we find the *Apteryx*, which, like the *Gavialis*, has the nostrils on the tip of the bill. All *Grallatores* may be called lazy in comparison with other birds, as we may sufficiently observe in *Ciconia* and all *Ardeidæ*.

In this order we remark in the almost extinguished suborder, *Brevipennes*, Cuv., the characters we have pointed out most pure, and they therefore constitute the third suborder, in the same way as the *Grallatores* represent the third order of birds.

Since the reptiles, as bone-animals, take indisputably the third rank as a class, thus must the *Grallatores* as an order, and in this the *Brevipennes* as suborder occupy the third rank for ever. The characters proper to the *Brevipennes* and *Grallatores* generally are, high gigantic meagre forms, with long necks, scanty development of the wings, greater perfection of the very long feet, *casques* upon the bill or front, imperfect tail or without tail, short toes, wanting the hind-toe, the nostrils near the tip of the bill, and an abnormous great bill. If we find a number of these characters in some families or suborders, then we assign to them as to the *Grallatores* and *Brevipennes*, the third rank in their orders, &c., &c.

Thus are the *Ramphastidæ* the third family among the *Zygodactylæ*, because in them the greatest mass of bone appears in the bill, and among them should consequently be found the largest forms.

Thus among the *Ornithes* the *Bucerotidæ* are the third family of the *Syndactyli*, which by that family take the third rank as a suborder. The *Bucerotidæ* show enormous bills, long necks, and the most gigantic forms among all *Ornithes*. Among the *Ichthyornithes*

---

* *Cygnus*, the *Grallatorial* type of its family, however, shows a greater number of *vertebræ*. If the species of the *Brevipennes* were not mostly destroyed, the third family *(Casuaridæ)* would generally show the greatest number of *vertebræ* with the greatest number of ribs.

I assign the third rank to the *Brachypteri*, because among them we find very tall forms, imperfect wings unfit for flying, three toes, and a large number of ribs.—(Uria.)

Among the *Gallinæ*, I give the third rank to the *Crypturidæ* as a family, because they have the nostrils towards the tip of the bill, imperfect wings, and little power to fly, the legs and feet more perfect for running, with 3–4 toes, long necks, and but a scanty development of the tail.

Applying these analogies to the *Accipitres*, we observe that the *Gypogeranidæ*, Bonap., represent obviously the *Grallatorial* type,* by a long heron-like feathered neck, stiff bristling eye-lashes, indifferent use of the wings, extremely long tarsi, with very short toes, and feeding on reptiles.

Among the *Falconidæ* we see the *Geranopus* (*F. gracilis*, T.), analogous to the *Brevipennes* and *Gypogeranidæ*, by a meagre tall figure, long neck, high scaly tarses, exterior toe very short, by their plumage, and probably also by their way of living.

This genus gives to itself as genus, and to all *Accipitrinæ* as subfamily, the third rank. Among this subfamily we generally find very short wings, whereas the legs and feet are more perfect, and are sometimes furnished with enormous claws, as, for instance, the *Spiziaëti*, and the subgenus *Thrasaëtur* in the genus *Asturina*. The analogies collected or deduced from the *Grallatores*, *Gypogeranidæ*, and *Accipitrinæ*, viz., from the structure of their wings and feet, from their mode of living, aptness for running, building their nest on the ground, &c., give to the corresponding genera of the other subfamilies of *Falconidæ* the third rank.

Thus *Harpagus* assumes the third rank among the *Falconinæ*, from the structure of the wings, tarsi with transverse scales, and short toes. In like manner *Circus* does among the *Milvinæ*, from the structure of the wing, long tarsi, with transverse scales, short toes, partly feeding on reptiles, building their nests on the ground or among reeds, and swift running.

Circaëtes represents the third genus among the *Aquilinæ*, on account of showing the longest tarsi in proportion to extremely short toes, and from running on the ground, feeding on amphibia, and having the structure of the wings very like that of the sparrow-hawk. I assign the third rank among the *Buteoninæ* to *Polyborus*, for its long bill, nostrils on the extreme upper part, long tarsi, short toes, long neck, plumage like *Accipitrinæ* and *Gypogeranidæ*, running on the ground, and feeding on reptiles. Thus the family *Sturnidæ*, among the *Conirostres*, the *Eurylaimidæ* among the *Fissirostres*, the *Corvidæ* among the *Dentirostres*, and the *Upupidæ* among the *Tenuirostres*, assume the third rank, because we observe that all these families show very great or long bills, the largest forms, or the longest tarsi in their *subordines*.

---

* Of this family, in like manner as of the *Gypaitidæ*, I suppose that all members have perished but one.

In like manner, as representatives of the third family, we have the *Dicholophidæ* among the *Pressirostres*, the *Ibidæ* among the *Longirostres*, the *Ciconidæ* among the *Cultrirostres*, the *Palamedeidæ* among the *Macrodactyli*, because we see in all these families the highest forms, very long tarsi, with short toes, the longest and largest bill, &c.

Among the *Ichthyornithes*, I give the *Procellaridæ* among the *Longipennes*, the *Spheniscidæ* among the *Brachypteri*, the *Plotinæ* among the *Pelicanidæ*, and the *Cygninæ* among the *Anatidæ* the third rank, because they show the longest and largest forms in these families and subfamilies.

For such reasons, we have assigned the third rank to the *Grallatores* as order, to the *Brevipennes* as suborder of the *Grallatores*, to the *Rhamphastidæ* among the *Zygodactylæ*, to the *Syndactyli*, as suborder among the *Ornithes*, to the *Brachypteri* as suborder among the *Ichthyornithes*, and to the *Crypturidæ* among the *Gallinæ*, as true bone-birds; and in like manner, we have given the third rank to the family of *Gypogeranidæ* among the *Accipitres*, and to the genus *Geranopus* (*gracilis*) among the *Falconidæ*, and by that to the *Accipitrinæ*, and to the alleged genera of the other subfamilies of *Falconidæ*, &c., &c.

Having thus attained our aim in fixing the station of the respective genera of the *Falconidæ*, we now proceed to the class of fish, whose rank as fourth class among the higher animals may be considered as duly founded and unquestionable.

The fourth class, the Fish, *Pisces*, show the most complicated organs of digestion among all true animals. In this class there is not one species wanting the tongue, which, upon its ramificated ligaments, even supports the organs of respiration. Most of them show an enormous muscular power in swimming with ease, and the swiftness of lightning, even against the torrent. In all, the belly and tail are pre-eminently developed. Almost all are highly rapacious and voracious, and the larger devour the smaller ones, without even sparing their own species. In them the principle of a rapacious and voracious animal is first and dreadfully expressed. They all show the nostrils unpierced, which characteristic Cuvier already, and Oken have deemed highly remarkable.

Their fins, extremities analogous to those of the higher animals, appertain to the skeleton of the membranes, and divide into manifold membered rays, which are covered with membranes. All are confined to their element, the water, which some few species only can leave for but a very short time without the loss of life. They are consequently true water animals.

The *Pisces* are the *tongue, stomach, belly,* or *tail animals.* If with the aid of these characteristics, we search in the class of birds for a suborder that corresponds to the *Pisces,* we find but one in which the characteristics of fish are as obviously expressed as in a bird they possibly can be; it is the suborder *Totipalmati.* They show great power of the muscles. In all of them the toes, even with the hind toe turned forward, are connected by a membrane for swimming; so that the foot of the pelican, among all birds, bears most resemblance to a fin. They show the nostrils like a mere point unfit for respiration (Sula), or they want them altogether (Plotus).—All live near or on the water, feed only on fish, and are most voracious and rapacious. They are all true water-birds, that would starve on *terra firma.*

The *Totipalmati* are consequently the birds most analagous to the *Pisces,* and hence they represent in the fourth order of *Ichthyornithes,* the fourth suborder as fish-birds of the second degree. Let us now collect from the *Pelicanidæ* those characteristics, in order to assign to the other families and suborders, the corresponding, that is, the fourth rank in their respective orders.

The pelicans have a long bill on the upper part, somewhat curved outward, opening wide, even beyond the small eyes, and curved down on the tip with an inserted hook.

The wing and tail-feathers are strong and elastic like whalebone; the toes are turned forward, the exterior one is very long, and the interior edge of the claw of the middle toe is pectinated like a comb.

They feed only on fish, and are most rapacious and voracious.* If we consider these characteristics, collected from the pelican and the *Pisces*, in order to assign to the other families or suborders their fixed station, we give to the *Picidæ* (*Bucconinæ et Picinæ*), among the *Zygodactyli*, the fourth rank, on account of their extreme rapaciousness and voracity, the great development of their tongue and its ligaments, their stiff and rigid wing and tail-feathers, and sharp and curved claws.

We assign the fourth rank to the *Dentirostres*, because in the fourth family *Laniidæ*, we find the longest crooked bill and the greatest rapacity.

The *Ardeidæ* show the widest jaw, great voracity, and rapaciousness, the longest toes, and the pectinated middle claw. This family assumes to itself, and all *Cultrirostres*, the fourth rank as suborder.

In the *Gallinæ*, the ravenous bird type is but faintly indicated in the form of the bill of the family *Tetraonidæ*. Among the *Accipitres* we give the fourth rank to the *Gypaëtidæ*, because in this isolated form they clearly show the pelican type, by a straight bill, curved upon the tip, with a furrow on the side (a remainder of the compounded bill), by well developed ligaments of the tongue, and an extraordinary power for flying, and an almost incredible voracity.

Among the *Falconidæ*, *Pandion* assumes to itself and all *Aquilinæ*, the fourth rank as a genus, by feeding only on fish.

According to the analogies taken from the *Pelicanidæ*, *Gypaëtidæ*, and *Pandion*, the genera of *Falconidæ* arrange themselves as follows :—

Among the *Falconinæ* the true falcons take the fourth rank, because they have the longest toes, and greatest voracity. Among the *Milvinæ*, *Elanus* takes the same rank on account of its wide jaw, great voracity, and round claws like *Pandion*.

Among the *Accipitrinæ*, the fourth rank is assumed by *Astur*, because it has the longest toes, and the greatest rapaciousness and voracity.

And among the *Buteoninæ* the fourth rank is occupied by *Rost-*

---

* In all forms where the pectinated middle claw appears, the greatest voracity has been observed, and may be supposed, if the mode of life be yet unknown, as in the *Percnopterus pileatus* (subg. *caprornis*), *strix*, *rostrhamas*, *ardeidæ*, *glareola*, *Cursorius*, *limosa*, *melanura*, *corvus frugilegus*, the *Caprimulginæ*.

rhamus, on account of its wide deeply cloven jaw, dentated middle claw, and feeding on fish.

After these the *Totipalmati* are the most fish-like forms, and they range, like the class of *Pisces*, in the fourth rank of the fourth order of *Ichthyornithes*. We have given to the *Picidæ* among the *Zygodactyli*, the suborder *Dentirostres* among the second order *Ornithes*, the suborder *Cultrirostres* among the third order *Grallatores*, and the *Tetraonidæ* among the fifth order *Gallinæ*; then to the family *Gypaëtidæ*, to the *Aquilinæ*, and among these to *Pandion*, and lastly, to the genera *Falco*, *Elanus*, *Astur*, *Rostrhamus*, &c., &c., the fourth rank, which, either as suborders, families, or genera, they should occupy.

Having by closing our researches on the *Pisces* done with the vertebrate animals, there is yet remaining a class in the first subkingdom, in which the sexual or genital animals appear as the fifth order of mammalia in the *Ruminantia*, and in the fifth order of birds in the *Gallinæ*. We have defined the two higher and the following classes as follows:—

I. Mammalia, by man, as eye, nerve, and head animals.

II. *Aves*, by the swallow, as ear, respiration, and breast animals.

III. Reptiles, as nose, vertebræ, and *torso* or body animals.

IV. *Pisces*, as tongue, stomach, belly, or tail animals.

We recognized according to my definitions—

I. The *Zygodactylæ*, by the *Psittacidæ*, as eye, nerve, head birds.

II. The *Ornithes*, by the *Hirundinidæ*, as ear, respirations, and breast birds.

III. The *Grallatores*, by the *Brevipennes*, as nose, vertebræ, and body birds.

IV. The *Ichthyornithes*, by the *Totipalmati*, as tongue, stomach, belly, or tail birds.

Consequently, there is wanting yet in the class of birds, a well founded order, representing the membrane. *Pelvis* or sexual birds. These undoubtedly are the

GALLINÆ.

Among the mammalia, the *Ruminantia* represent the *Gallinæ*, and they occupy the fifth order as membrane, pelvis, or sexual animals. Among the class of reptiles, the *Batrachii* represent the sexual animals, and the *Chondropterygii* represent them among the *Pisces*. If, consequently, we find in each of the four higher classes of animals, an order every one of which has but a very imperfect skeleton in comparison to the others, but which always show a very perfect *pelvis*, and which animals are possessed of a strong sexual energy, and a numerous progeny or brood; if we further see, that all orders divide themselves into five suborders or families, of which the last always represent the sexual animals, then of necessity the idea must consequently arise, that another class must be added to the higher animals, which the unphilosophical sense of earlier times has forcibly separated from them. This class is that of the

MOLLUSCA.

The objection founded on the existence or non-existence of vertebræ, is of itself erroneous, since there are *Pisces* with very imperfect, and even without the vertebral column; and on the contrary, we find among the mollusca, the higher *Cephalopoda*, with indications of head and vertebral bones.

The class of mollusca show as such, characters which are of no greater consequence than those which distinguish the class of *Pisces* from that of reptiles, and I think it a great mistake of Cuvier's to have considered them as a particular subkingdom, with classes of its own, since all the characters of classes adopted by him have but the amount of those orders. However, in spite of this mistake, Cuvier ranges very properly the mollusca immediately after the *Pisces*, which he surely did from his innate strong feeling for nature and fitness.

Considering the mollusca with their life of dream, with their glandulous slime producing membrane, of themselves but as the fœtal existence of the higher animals, I think all dispute is at an end, whether the molluscs or the insects are to be ranged higher as classes. The molluscs stand as a part of the first subkingdom, higher than the insects, whereas these, as representing the aves of their subkingdom, range higher than those. If the molluscs in their exterior appearance are certainly less perfectly organized than the agile insects, which are organized altogether according to a different type, yet in no insects has there as yet been found a construction of the eye like that of the *Cephalopoda*, which, in its most perfect organization, surpasses even that of the *Pisces* and *Amphibia*, and is only to be compared with that of animals of warm blood.

The organs of hearing have not been as yet discerned with undoubted certainty in insects, whereas a clearly developed ear shell has been recognised in the *Cephalopads* and other genera of molluscs.

Since in the *Cephalopods* a very imperfect skeleton, with a cartilaginous cave for the brain, is not to be disputed, and seeing the *Ruminantia*,* *Gallinæ*, *Batrachii*, and *Chondropterygii* having in their respective classes also the most imperfect skeletons, but always with a great perfection of the *pelvis*, I regard this as another analogy which these orders, as the sexual or genital animals of their classes have in common with the molluscs as a class.

In the molluscs there is but one anatomical system pre-eminently arrived at perfection. It is that of the membrane and sexual organs, which fill up the greater part of the shell, *the analogon of the pelvis*. In the molluscs we observe all modes of procreation. Some are simple, some divided hermaphrodites, which require a reciprocal fructification, and others again are of separate sexes. Of the molluscs Cuvier says, with reason, that intellectually they are but very little developed beings, which, from their tenacity of life, and great procreating power, alone continued to exist. Of their enormous generation, the antediluvian world particularly gives a clear notion, since many formations or strata are wholly composed of their shells.

All molluscs have a very perfect glandular membrane, which, in most of them, produces shells, adorned with the most beautiful colours; it is most sensible to external impressions.

---

* I constitute the fourth order or stem of mammalia out of the suborders of *Whales*, *Dolphins*, *Halicores*, *Seals*, and *Carnivoræ*, and estimate this stem not according to the *Whales*, *Dolphins*, and *Halicores*, which have but an imperfect skeleton, but according to the more perfect carnivora, which, with respect to the skeleton, stand considerably higher than the *Ruminantia*.

The molluscs can therefore only be considered as *membrane, pelvis*, or *sexual animals.*

If now we apply the characters collected from the molluscs to the class of birds, and search among these for an order in which the membrane, and the skeleton of the membrane, the feathers, are pre-eminently perfect, in which, moreover, the most imperfect skeleton, and the largest pelvis, with the greatest number of eggs appear, we find here surpassing, in these respects, the order of *Gallinæ.* In like manner as the sexual system places the molluscs, as representing this system, in the fifth or last rank as a class; for the same reasons, the *Gallinæ* can be placed nowhere else than at the end of their respective class. Considering the five orders arranged in a circle, we may take occasion to connect the last with the first, the *Gallinæ* with the parrots, according to analogies which the lowest family of *Musophagidæ* has with the *Cracidæ,* the highest family of *Gallinæ*; an analogy which Cuvier already took advantage of in order to connect the *Zygodactyli* with the *Gallinæ.*

The characters of the *Gallinæ,* which all the different types more or less possess, are a more or less naked membrane, which as crests, flaps, or caruncles, appears on the head and neck; perfect plumage, with gorgets and odd tail-feathers, and of most splendid colours; a very large pelvis, strong feet for running, the greatest number of eggs; a strong sexual propensity; polygamy, the male takes no care in rearing the brood; a very slight indication of intellectual life, so that it may be said of the *Gallinæ* also, that they are preserved only by their great fertility.* We remark also, that they love to bathe in dust or sand, are very pugnacious in regard to their females, and live on vegetable food.

Where we find these physical or mental characteristics in other orders appearing either in greater or lesser number, or even but indicated, we give to the respective divisions the fifth rank, that is to say, we look upon them as belonging to the lowest forms, or sexual birds. Thus we give to the family of real *Gallinæ, Phasianidæ* with the *Pavoninæ, Numidiinæ, Meleagrinæ,* and *Phasianinæ,* the fifth rank.

---

* If, for instance, the partridge laid but two eggs, it would have been extirpated long ago by ravenous animals and men.

We give to the *Ducks* of the fourth order the fifth rank in that order, because they show membraneous flaps on the head and neck, a very large pelvis, a great number of eggs, beautiful plumage in the male, but modest in the female, an inclination to polygamy, spurs on the wings in place of the tarsi, &c. They are, in every respect, the hens or sexual birds of their order.

According to almost the same reasons, we assign the fifth rank to the suborder, *Macrodactyli*, among the *Grallatores*. In most languages their analogy with the hens has been felt and expressed, by calling them "water hens."

Among the *Ornithes*, I give the fifth rank to the *Tenuirostres*, because in the fifth family *Meliphagidæ*, most of the characteristics of hens appear. Among the *Zygodactylæ*, I assign the fifth rank to the *Musophagidæ*, on account of their analogies with the *Cracidæ*.

Applying these analogies, I give the following families in their respective suborders the fifth rank.

Among the *Conirostres* to the family *Alaudidæ*.

Among the *Fissirostres* to the family *Ampelidæ*.

Among the *Syndactyli* to the family *Pipridæ*.

Among the *Dentirostres* to the family *Paridæ*, because we see the greatest number of eggs in this family.

Among the *Grallatores*, I give the same rank among the *Pressirostres* to the family *Otidæ;* among the *Longirostres* to the *Scolopacidæ*, among the *Brevipennes* to the family *Struthionidæ*, among the *Cultrirostres* to the *Phœnicopteridæ* (it represents the Gallinaceous type as it is presented in the *Lamellirostres*), among the *Macrodactyli* to the *Parridæ*. I give the same rank in the *Ichthyornithes* to the *Podoidæ* among the *Brachypteri*, among the *Lamellirostres* to the *Anserinæ*.

Applying these analogies to the *Accipitres*, we find that no other forms but those of *Vulturidæ* can be considered as Gallinaceous types, and it is only from the greater number of the genera of this very interesting family having perished, we are at a loss to prove that there are forms to be found in it which feed on vegetable food and lay a larger number of eggs.

Among the *Falconidæ* we find a subfamily, and in this a genus, which, in a naked checkered visage and throat, henlike tarsi, partly feeding on vegetables, henlike voice, bathing in sand, and eagerness for fighting, shows many analogies with the *Vulturidæ* and *Gallinæ*.

It is the genus *Ibicter*, which assumes to itself the fifth rank as genus, and to the *Buteoninæ* as subfamily. They show the lowest nature, and there are species among the *Ibicter* which devour not only carrion but even the excrements of animals.

According to the analogies taken from *Ibicter* and the *Vulturidæ*, it results, that in the subfamily of *Falconinæ*, the genus *Ieracidea* occupies the fifth rank, on account of its *Ibicter*-like construction of the foot, and feeding on carrion and caterpillars, and that *Milvus* among the *Milvinæ*, takes the same rank from its vulture-like bill and low buzzard-like nature or habits.

We give to the buzzard-like *Asturina* among the *Accipitrinæ*, and to *Haliaëtus* among the *Aquilinæ* the fifth rank, because in them the longest, straightest, and highest vulture-like bill, and the vulture and buzzard-like carriage and habits appear.

According to the same principles, we have endeavoured to arrange the subgenera of the genera *Falconidæ*, which to indicate here would be rather too prolix, but which will be done with more propriety in the following special descriptions.

After the most careful critique of my system and researches, I have been unable to find out a sixth subfamily in a family, or a sixth genus in a subfamily, or a sixth subgenus in a genus, or a sixth true species in a subgenus.

From the above investigations of the class of birds, there have resulted the following suborders, order, or families:—

I. Family Zygodactylæ.	II. Suborder Ornithes.	III. Suborder Grallatores.	IV. Suborder Ichthyornithes.	V. Family Gallinæ.
1. *Psittacidæ*	1. Conirostres	1. Pressirostres	1. Accipitres	1. Cracidæ
2. Cuculidæ	2. *Fissirostres*	2. Longirostres	2. Longipennes	2. Columbidæ
3. Rhamphastidæ	3. Syndactyli	3. *Brevipennes*	3. Brachypteri	3. Crypturidæ
4. Picidæ	4. Dentirostres	4. Cultrirostres	4. *Totipalmati*	4. Tetraonidæ
5. Musophagidæ	5. Tenuirostres	5. Macrodactyli	5. Lamellirostres	5. *Phasianidæ*

In the *Italic* forms—I. 1, II. 2, III. 3, IV. 4, V. 5—the fundamental types, viz.—Parrot, Swallow, Ostrich, Pelican, and Hen—are to be looked for.

The second order, *Ornithes*, consists of the following families :—

I. Suborder CONIROSTRES.	II. Suborder FISSIROSTRES.	III. Suborder SYNDACTYLI.	IV. Suborder DENTIROSTRES.	V. Suborder TENUIROSTRES.
1. *Fringillidæ*	1. Musicapidæ	1. Prionitidæ	1. Luscinidæ	1. Certhidæ
2. Artamidæ	2. *Hirundinidæ*	2. Meropidæ	2. Oriolidæ	2. Trochilidæ
3. Sturnidæ	3. Eurylaimidæ	3. *Bucerotidæ*	3. Corvidæ	3. Upupidæ
4. Buphagidæ	4. Coracidæ	4. Alcedidæ	4. *Laniidæ*	4. Sittidæ
5. Alaudidæ	5. Ampelidæ	5. Pipridæ	5. Paridæ	5. *Melephagidæ*

In the *Italic* forms, the Parrot, &c., types, are most clearly expressed.

The third order, *Grallatores*, consists of the following families :—

I. Suborder PRESSIROSTRES.	II. Suborder LONGIROSTRES.	III. Suborder BREVIPENNES.	IV. Suborder CULTRIROSTRES.	V. Suborder MACRODACTYLI.
1. *Charadridæ*	1. Tinochoridæ	1. - - -	1. Gruidæ	1. Fulicidæ
2. Glareolidæ	2. *Tringidæ*	2. Apterycidæ	2. Tantalidæ	2. Rallidæ
3. Dicholophidæ	3. Ibidæ	3. *Casuaridæ*	3. Ciconidæ	3. Palamedeidæ
4. Cursoridæ	4. Totanidæ	4. - - -	4. *Ardeidæ*	4. Chionidæ
5. Otidæ	5. Scolopacidæ	5. Strithionidæ	5. Phœnicopteridæ	5. *Parridæ*

In the *Italic* forms, the Parrot, &c., types, are most clearly expressed.

The fourth order, *Ichthyornithes*, consists of the following families :—

I. Suborder ACCIPITRES.	II. Suborder LONGIPENNES.	III. Suborder BRACHYPTERI.	IV. Suborder TOTIPALMATI.	V. Suborder LAMELLIROSTRES.
1. *Falconidæ*	1. Lestridæ (?)	1. Alcidæ	1. - - -	1. Cereopsidæ
2. Strigidæ	2. *Laridæ*	2. Uridæ	2. Phætonidæ	2. Anatidæ
3. Gypogeranidæ	3. Procellaridæ	3. *Spheniscidæ*	3. - - -	3. Cygnidæ
4. Gypætidæ	4. - - -	4. Colymbidæ	4. *Pelecanidæ*	4. Mergidæ
5. Vulturidæ	5. - - -	5. Podoidæ	5. - - -	5. *Anseridæ*

In the *Italic* lines, the Parrot, &c., types, are most clearly expressed.

I give these schemes of the families, as at present I think them most properly arranged; but I do not answer for their not being still susceptible of many modifications, by restricting or enlarging them. All this can only be done, by giving Monographs of the single families, by which either superfluities will fall off or wants be discovered.

Many families cannot be divided into subfamilies, as, for instance, the *Alcedidæ*, but merely into five genera with subgenera; others, as yet considered as groups of families, may, upon a closer investigation, prove to be but subfamilies, as, for instance, probably the family *Trogonidæ* is but a subfamily, which represents the swallow type among the *Musophagidiæ.* The *Nectarinidæ* form a subfamily, representing the *Luscinidæ* among the *Certhidæ,* and the *Turdidæ* are a subfamily of the *Luscinidæ.*

The *Paradiseidæ* show, in more than one respect, the Gallinaceous type; and I think it very likely that they must be ranged with the *Oriolidæ** as a subfamily. The family *Colidæ* will probably not hold good as a family, but must probably be considered as a member of a subfamily, representing the *Pelicanidæ* among the *Fringillidæ.* Where with propriety I am to place the *Megapodidæ,* I know as little as yet as where to fix the *Mænura.* These are questions which are still to be solved and decided by the investigation of the respective families. Nothing, therefore, is more a *desideratum* than monographical essays on large families, as on the *Psittacidæ, Cuculidæ, Fringillidæ, Muscicapidæ, Hirundinidæ, Luscinidæ,* &c., in order partly to find out fixed boundaries, partly to know what constitutes a family, a subfamily, a genus, or a subgenus; and moreover, to ascertain what families may be divided into subfamilies and which may not. By such essays a very great number of analogies, overlooked or unobserved by myself, will yet appear, which will serve to prove still more the genera already fixed. Future times will not be contented with outward analogies alone, but search for them even in the skeleton and body, in which a new series of distinctive characters will present themselves.

When all this at some later time shall have been done, then the zoologist may, from the retirement of his museum, advise the traveller what he has to observe or not in one or other genus with respect to their habits, whenever the genus has found its proper station according to a natural system.

---

* Or *Corvidæ.*

At that time we shall admire the infallible order of nature; and those men who have guessed and devised these strict iron laws of nature, will no longer, in a futile and awkward manner, be vituperated and compared with Procrustes. That time will, when freed from scientific pedantry, surely with better reason, compare with that fabulous giant, those naturalists, who, from the mere existence or want of two pairs of muscles on the lower larynx, &c., have forcibly torn asunder and mutilated nature by artificial sections.

ORNITHOLOGY OF THE BERMUDAS.

THE animal and vegetable productions of islands always present some interesting inquiries. It is a general law, that the animal forms are identical with those of the nearest continent, although the species may, and in some remarkable instances do differ, and are in a manner insulated. The ornithology of the West Indian Islands, which we have been endeavouring to procure and work out, exhibits some curious instances of one species being peculiar to an island and not known upon the continent; of others known in the interior of the mainland, far from the coast, and met with again only on a distant island, other islands at the same time intervening between; of few of the islands possessing similar ornithological faunas; and of neighbouring islands, without any apparent cause, differing materially in their ornithology.

Though not properly belonging to the group commonly called West Indian Islands, the Bermuda or Somer's Islands, form a part of the American world zoologically considered; and from their position far in the wide sea, and being in the tract of the migratory species from both continents, it becomes a matter of interest to watch, if possible, those which rested there on their migrations, or if any had taken up a continuous abode.

We are enabled to fill up this blank by the kindness and attention of two gentlemen. Lieutenant Wedderburn of the 42d Regiment, which has been for some time quartered in Bermuda, has devoted his spare time to the investigation of its ornithology; and the Rev. H. B. Tristram, now of Castle Eden, Durham, having resided three years in these islands, attended generally to their zoology, and the following list is the result of their notes, observations, and specimens:—

The manner in which islands became inhabited by living beings, or clothed with vegetation, is a subject of great interest. Birds, of all other creatures, possess the greatest facilities for passing over vast distances, and in general will be found to be the most numerous inhabitants, both numerically and specifically, particularly those belonging to the waders and aquatic tribes. Mammalia and reptiles are generally extremely limited, while insects and the flora of the island depend more on accessary causes, and sometimes exhibit geographical differences not presented by other groups.

The flora of the Bermudas presents varied features; in a list of about 130 species commonly met with, now before us, we see that the hand of man has been much employed in their distribution, and we can only thus account for the appearance of common European and British plants, such as *Lepidium ruderale, Mercurialis annua, Cerastium viscosum, Runex ascetosa, Anagallis arvensis*, &c., as carried thither with the various economic seeds, which from time to time have been attempted to be introduced.

The animals yet observed, except imported ones (such as rats and mice), consist of only a single species, referred by Mr. Tristram to *Vespertilio pruinosus*, or Hairy Bat of North America. This extends from Philadelphia to the Saskatchewan, in latitude 54°.

Reptiles, as we might anticipate, are equally limited, they perhaps being the most unlikely to be introduced, the tortoises excepted, which are ascertained to have escaped from confinement.

The entomology is more extended. The *Lepidoptera* present the N. American types as *Danais archippus;* but some European species have also been met with, the appearance of which is not so easily accounted for. Mr. Tristram has taken *Cinthia cardui, Vanessa io, atalanta, polychloros, sphinx, convolvuli*, &c.; and on submitting these to the examination of an entomological friend, he writes, with the exception of *V. atalanta*, which is the American form, the others are reported to be identical; and he presumes that *V. io* and *polychloros* were introduced, the only spot where they were captured being in the garden of Mr. Kennedy, who for years had an annual importation of plants from England.

The ornithology of the Bermudas is essentially North American. Mr. Tristram printed a list in the islands, of all the birds that had occurred to his notice in 1847; and that list, drawn up with the assistance of any authorities that were accessible to him, together with the information afforded by Mr. Wedderburn and himself, up to the present date, are the authorities for the following catalogue. We may add, that nearly all the specimens have been submitted to our examination, and compared with American and European birds. Mr. Tristram arranged his list under "constant — summer — autumnal and winter — vernal and accidental residents or visitants;" and we have preferred keeping that to a systematic arrangement, as it more easily shows the proportions under which the species are found.

From this catalogue it will be observed, that among the whole number, no true South American species has been met with; that in all, there are only seven or eight constantly resident species; and that the great mass of the birds are either those which pass the summer in the United States, or similar climates in North America, and which reach the Bermudas in their autumnal migration southward, and again on their return in spring; or of the *Grallatores* and *Natatores*, which breed still farther northward, and returning in autumn, are stopped by these lands, and there spend their winter, finding a suitable shelter and food around their shores or among their marshes. Of the first of these Mr. Tristram observes, "that though not unfrequent, and many of them very common, they did not seem guided by any regular seasons of migration, but constantly appeared during the latter part of the year; indeed, from August to February, though visiting us in greatest numbers during October and November." Of the *Natatores*, "the *Anatidæ* are always later in their visits than any of the Waders. The earliest, indeed the only one I have noted before November in any year, was one Scaup, in October, 1847; the various ducks are not unfrequently captured in the marshes in company with the domestic ducks of the islands. The gulls have only been shot in winter, chiefly late in the season, except the Kittiwake, which is obtained in all states of plumage, and occasionally at all times of the year."

Additional attention will, no doubt, add a few more species to the ornithology of the Bermudas; and violent storms or hurricanes occurring about the periods of migration, will occasionally drive birds from their courses which would not have made these islands, and which could not be ranked beyond occasional stragglers. Such will be the case with the ruby throated Humming Bird. Mr. Tristram states, that several residents had informed him (and there can be no reason to doubt the information), " that vast numbers resorted to Bermuda in the autumn of 1814. Vast numbers were captured, but many remained until spring, particularly on David's Island, when they all disappeared, and have not been observed since." In like manner, a few species may be lost, as in an old work on Bermuda, by Captain John Smith, who, in enumerating the birds, reckons " numbers of small birds, like sparrows and robins, which have lately been destroyed by the wilde cats," and who also mentions the " Cohow," of which Mr. Tristram remarks, in his printed list, " that a few are known still to breed on or near Cooper's Island." This is a nocturnal bird, and although the descriptions of the fishermen are very vague, in all probability it will turn out to be one of the petrels.

CONSTANT RESIDENTS.

Sialia wilsonii.

Mimus carolinensis.—Mr. Wedderburn has " heard this bird imitating the harsh cry of the belted kingfisher."

Guiraca cardinalis.

Vireo noveboracencis.

Corvus americanus.—Mr. Wedderburn states, " introduced into Bermuda some years since, and used to be very rare." It now however has naturalized itself, for in a letter received by the same gentleman, when on a visit here in 1849, it is mentioned, " young crows were observed in the neighbourhood of Warwick church during the first week of April."

Chamœpelia passerina.

Gallinula galeata.—This is given in Mr. Tristram's list among the constant residents, but Mr. Wedderburn's note is, " not uncommon in winter, but whether a resident or not is a matter of doubt."

Ortyx virginianus.—" Formerly abundant when barley was more cultivated, now nearly extinct, and probably a bird of passage, and more properly belonging to the next sections."

SUMMER RESIDENTS.

Phæton flavirostris. — This species was confounded by both Wilson and Audubon with *P. æthereus,* and as such is mentioned in their works; Audubon's plate, however, represents the present bird. According to Wilson's list, it is "common during summer on the coasts of the Southern States;" and Audubon's specimens "were obtained in summer on the Tortugas." It might have been anticipated, therefore, that this would be the Bermuda species, although Mr. Strickland possesses a specimen, which he considers *P. flavirostris,* from a very different locality, the island of Mauritius; while again the species which breeds on St. Giles' Rocks, off the coast of Tobago, is *P. æthereus.* Mr. Wedderburn states of the Bermuda *Phæton,* "very common during summer, arrive about 10th March, and depart middle or end of September. They breed among the rocks, make no nest, and lay a single egg, of a reddish-brown colour, mottled with dark brown. They never attempt to leave their nests, but allow themselves to be taken." Mr. Tristram, who has kept a register of the appearance and disappearance of many of the migratory birds, for three years that he resided on these islands, gives the dates:—

First observed.	Plentiful.	Last observed.
1847, 5th March.	20th March.	1846, Nov., a straggler.
1848, 10th March.		1847, 9th October.
1849, 12th March.		1848, 27th September.

Sterna dougalii.—First observed by Mr. Wedderburn. Arrive in June, and breed on the farthest rock off St. George's. Mr. Tristram says, "first week of May till end of August not scarce."

Sterna hirundo.

AUTUMNAL AND WINTER VISITANTS.

Many of these are accidental and very rare; those which visit Bermuda in spring, on their return northward, are marked V.

Pandion haliætus.—First observed by Mr. Wedderburn. Only three specimens, obtained in 1847–48—in October, 1847—W.; October, November, and December, 1848—T.

Falco peregrinus.—This will be *F. anatum* of Bonap., &c.

Falco sparverius.

Falco columbarius.
Circus cyaneus.
Surnia nyctea.
Otus americanus.
Otus brachyotus.

Mr. Wedderburn states, that "these five birds are rare, or of unfrequent appearance;" but Mr. Tristram remarks, "*Falco columbarius* occasionally seen throughout the winter and until the month of May, when I have observed it for the last three years. Though not uncommon, it appears rather a straggler than a migratory visitant. Two specimens of *Surnia nyctea* were shot in October, 1846. They were observed sitting on a prostrate spar, in a little sandy bay, and were mistaken for gulls. *Otus americanus* not uncommon in November, December, and January, 1846–7. *Otus brachyotus* by no means uncommon in November, and up to February in each year.

Scotophilis acadica.—One specimen was shot by Mr. Wedderburn in January, 1849.—T. Mr. Tristram mentions, in a note from Bermuda, that he had obtained a specimen of Tengmalm's owl in February, which had lighted on a schooner, 150 miles N.N.W. of Bermuda. *Circus cyaneus* and *Otus brachyotus* we cannot distinguish from European specimens. They are respectively *C. americanus* and *O. ulginosus* of Bonap. and others.

Chordeiles virginianus.—Mr. Wedderburn states, "numerous in October; seen occasionally on their way north in spring; got a specimen this year (1848), in September, which is unusually early.

Mr. Tristram, in his last communication, observes, that *Chordeiles virginianus* "appeared in great numbers, invariably about the beginning of October; by the 24th almost all had disappeared, though a few stragglers remained until 12th November, 1847. They were never more than two together, but there was not an acre of land in the whole island, which had not its tenant hunting in a small circle for some hours after nightfall. In the day time they lay hid in the marshes, and more than once I have almost trod on them before they would take wing, which they do, uttering their sharp yet pleasing chirrup, followed by a note something like the whip-poor-will. In February, 1848, a few were seen apparently going north.

This is the only instance I know of in which they reappeared in spring; though so numerous are they, and so constant in their autumnal visits, that they are the only one of our visitors with which the Bermudians seem generally acquainted."

Hirundo rufa.—"A few arrive in August, but do not remain above a few days. They are constantly seen sitting on the dead branches of the cedar."—W.

"In large flocks for not more than one or two days, in 7th August, 1847—23d, 1848. Mr. Hurdis shot one female adult on 10th May, 1847."—T.

H. riparia.—"Congregated in company with *H. americana*, 9th August, 1847."

Ceryle alcyon.—Mr. Wedderburn states, "arrives beginning of eptember; remains all winter; is very common at the different mangrove swamps." Mr. Tristram remarks, numerous every where in winter, and very bold, darting and fishing among the mangrove trees, and seen perching on roofs, and frequently on the higher boughs of the cedars.

They appeared,	Left for the North,
September 7, 1847.	May 9, 1847.
,, 24, 1848.	June 2, 1848.
	May 5, 1849.

I watched minutely; but although a few remain so late, I could never discover that they ever bred about the islands. In April they begin to be scarce, but the whole generally reappear about the same period in September."

Sylvicola coronata.—"The different *Sylvicolinæ* have been merely stragglers, and shot from the end of September until as late as 17th December. I shot *S. americana* in my garden in January, 1849, after a westerly gale."—T.

Sylvicola petechia, first noticed by Mr. Wedderburn, who shot the first specimen seen, on 17th December, 1847.

S. discolor.

S. americana.

Sëiurus noveboracencis.—"Met with occasionally in winter."—W.

Anthus ludovicianus.

Linaria minor.—"Stragglers in November and March."—T.

Dolichonyx orizivorus.—Mr. Wedderburn states, that all the specimens obtained were in winter plumage.

Plectrophanes nivalis.—"A specimen was procured by Mr. Wedderburn on 15th February, 1848. Appears in winter after heavy northerly and westerly gales. A flock in January and February, 1848 and 1849."—T.

Lanius ludovicianus.—"One example only in spring of 1847." —W. "Three shot in March 1847."—T.

Bombycilla americana.—Mr. Wedderburn observes, "I found a small flock of these birds, 11th October, 1847, in winter plumage. Again, on 17th December, I got four specimens, but only one had a few of the beautiful wax-like tips to the secondaries. They had not been observed here before." Mr. Tristram remarks, of this same flock, that they were young birds, and that three of them were little more than nestlings. Another flock appeared in November, 1848.

Picus varius.—"These birds may remain all the year, but are very rare."—W. Mr. Tristram believes it to be a constant resident; but from their extreme shyness, and the part of the islands they inhabit, he had failed in finding the nest. "It has been shot in every state of plumage, and at all times of the year."—T.

Coccyzus americanus.—"Shot on 15th October, 1847, and several times during the last September and October; but single birds only, and always after or during heavy weather. On two occasions, it boldly sought refuge in dwellings, and was taken by the hand alive."—T.

Ectopistes carolinensis.

Squatarola helvetica.

Charadrius virginiacus.—"Common from September until middle of October."—W.

Ægialites vociferus.—"Sometimes met with in winter."—W.

Ægialites semipalmatus.—"Not uncommon in winter."—W.

Ægialites melodus.

Calidris arenaria.

Strepsilas interpres.—"Common in winter."—W.

Tringa pectoralis.
Tringa schintzii. } —"I found them not uncommon during September and October, 1847."—W.

Tringa pusilla.—"Common in August and September. To be seen generally in company with the semipalmated Sandpipers."—W.

Tringa maritima.

Tringa semipalmata.—" Common in August and September." —W. " Of all the *Tringæ*, the *T. semipalmata* is the most numerous, and they resorted to some little salt ponds in David's Island, from August to February. The various species of *Tringæ* and *Totani* seem to feed and live in common, as I have frequently found one or two Stints, Schintz, Pectoral and Spotted Sandpipers, in company with large flocks of our familiar semipalmated. On the brink of a pond in Ireland Island, where they were never fired at, they became in a few days so tame, that I have often watched them not two yards distant, feeding and running along with perfect unconcern, and shaking their tails with that unceasing restlessness which the whole tribe exhibit."—T.

Phalaropus lobatus.—" A pair were obtained in March, 1848. One I picked up in a little bay, dead, but uninjured, and quite fresh. The female was on the same day caught by Mr. Marriot, who struck it with his oar as he was boating."—T.

Totanus macularius.—" Not uncommon in summer and until the end of September. I think a few must breed."—W.

Totanus solitarius.—" Common in September."—W.

Totanus flavipes.—" Common in August."—W.

Totanus vociferus.—" Met with in October. It is almost impossible to approach these birds, they are so shy."—W.

Catatrophorus semipalmatus.

Himantopus nigricollis.

Scolopax wilsonii.—" Common during October."—W.

Macrorhamphus griseus.

Rusticola americana —" Very rare."—W.

Numenius borealis.—" Very rare."—W.

Numenius hudsonicus.

Fulica americana.—" Occasionally met with in winter."—W.

Ortygometra carolinus.—" Numerous from September until December. I have seen these birds, when alarmed by my dog among the mangrove trees, frequently fly and perch on them many feet from the ground."—W. " Arrived in 1847 as early as 31st August. Two on 3d September, several on 7th, after which plentiful. Not observed after March."—T.

Ortygometra noveboracencis.—" Only two found by me in October, 1847," when it was first noticed.—W.

Ortygometra jamaicensis.—"The only one yet seen, was found by me in November, 1847."

Nycticorax gardeni.—"Very rare.—W. "The young are frequent, but we never obtained a specimen in adult plumage until one in November, 1848."

Botaurus lentiginosus.—"Not uncommon in winter."—W. "Frequently obtained from October to December in every year."—T.

Ardeola exilis.

Ardeola virescens.—"One or two are generally met with every winter."—W.

Egretta leuce.

Ardea herodias.—"Remains through the winter, and occasionally seen through the year; great numbers were brought over by a gale. It was the first appearance of the heron that year, and the birds seemed perfectly exhausted. Five of them took refuge in a convict hulk, and one flew into the barracks. I obtained one, and kept it in my garden for some months, when it died suddenly, apparently from overgorging itself with flesh, which the servant had given to it instead of fish. It enjoyed much standing with its legs in a pail of salt water, and always preferred its morsels of fish from the water rather than on the ground. When it had food before it, it was bold enough to attack either men or dogs; at other times it was *to me* perfectly tame and familiar. It was not a young bird of the year, as were most of the other refugees."—T.

Anser hyperboreus.
Anser canadensis.
Anas obscura.
"Very rare."—W.

Anas discors.
Anas carolinensis.
"Four killed 12th October, 1847."—T. "Both are occasionally met with in winter."—W.

Dendronessa sponsa.—"A female bird was once shot."

Rynchapsis clypeata.—"Occasionally met with in winter."—W.

Dafila acuta.

Fuligula marila.
Fuligula mariloides.
"Rare."—W.

Clangula albeola.—"Rare."—W.

Mergus merganser.

Mergus cuculatus.

Phalacracorax dilophus.
Plotus anhinga.
Tachypetes aquila.
Pelicanus fuscus.
Podiceps cornutus.
Podiceps carolinensis.
Larus occidentalis.—"Three specimens met with in 1847."—W.
Larus zonorhynchus.
Larus argentatus. } —"A few arrive in winter."—W.
Larus tridactylus. }
Xema atricilla. } —"Both rare, first only once met with."—W.
Xema sabinii. }
Sterna fuliginosa.—"I have only once met with this bird."—W.

Thalassidroma wilsonii.—"Common outside the reefs, never seen inside, and not known to breed on any of the rocks or islands."—W. "The fishermen tell me, that *T. wilsonii* breeds on the same rocks (Cooper's Islands) where the cinereous sheerwater's eggs have been this year obtained. The rock is very difficult of access, and it is only in a perfect calm that a boat can land."*—T.

VERNAL VISITANTS.—(Accidental.)

Myiodoctes mitratus.—30th March, 1847.
Milvulus tyrannus.—In March, 1847-8.
Nycticorax cayenensis.

ACCIDENTAL STRAGGLERS FROM THE EASTERN HEMISPHERE.

Saxicola œnanthe.

Crex pratensis.—"Once met with. Shot on 25th October, 1847."—W. This specimen was sent to Mr. Yarrell from Bermuda, and in reply to my inquiries regarding it, he writes, "It is a young bird of the year, perhaps bred in a northern latitude, and forced westward by the strong winds of the autumnal equinox, when crossing the sea on its way south."

Scolopax gallinago.—"Shot a couple in December, 1847. The bills of these being much longer, their size less, and having fourteen instead of sixteen feathers in the tail, made me observe them as different from the common Snipe."—W.

---

* Mr. Hurdis writes me, that he has, this Spring, obtained the adult bird and eggs from Cooper's Island.—T.

This Snipe, of which Mr. Wedderburn brought one specimen, is closely allied to that of Europe; the tail, however, is imperfect, and the feathers are of unusual breadth. On showing it to the Prince of Canino, who has paid much attention to this genus, he was inclined to consider it different from either *S. gallinago* or *wilsonii*; and we would request, if possible, that one or two specimens can be yet procured for us.

DOUBTFUL.

Buteo vulgaris.
Ectopistes migratoria.
Tringa bartramia.
Larus marinus.
Sterna anglica.

ILLUSTRATIONS OF FOREIGN OOLOGY.

TANAGRA CANA, SWAINSON.

Mr. SWAINSON gives Brazil as the native country of this bird. We possess it from Bogota, and have received specimens of what we consider to be only a variety of it from Mr. Kirk, our correspondent in Tobago, to whom also we are indebted for the nest and eggs now represented. "The blue bird builds on middle sized trees, and lays from three to four eggs." In structure, the nest shows considerable resemblance to that of some of the buntings, and the colour and marking of the eggs is somewhat intermediate between that of the buntings and finches. The eggs varied, as represented in our plate; and a third was nearly intermediate in the distribution of the markings. The foundation of the nest is composed of dried leaves, roots, small sticks, &c. The upper part is formed of the leaves of some reed like plant, intermixed with slender roots and tendrils of some creeper. The inside showed almost no lining, and is formed of the same dried reeds, and a few finer tendrils with a single feather. Our plate is slightly less than the original, the interior diameter being nearly three inches.

HIRUNDO ALBIGULARIS, STRICKLAND.

I HAVE long possessed a specimen of this bird, but was unacquainted with its locality till lately, when I procured a second individual, in a collection of birds from South Africa, which I therefore conclude to be its true habitat. As, however, I find no such bird in the works of Le Vaillant or Dr. Smith, and as no specimen exists in the British Museum, I conclude it to be a rare and probably new species. Lesson's description of *Hirundo rufifrons* (Traité d'Orn. p. 268), is apparently meant for this bird; but the true *rufifrons*, Shaw (Le Vaill. Ois. Af., pl. 245, f. 2) has the whole throat and upper breast black.

Front, deep ferruginous; whole upper parts glossy blue-black; feathers of the nape and upper back whitish at their bases; wings and tail, blue-black; rectrices, except the two middle ones, with a large medial, subquadrate white patch on the inner webs, extending from the shaft to the margin, and becoming longer and more acutely pointed on the outer rectrices; lores, and lower margin of eyes, black; chin and throat, pure white; a distinct black bar across the upper breast; rest of lower parts white, with a very pale greyish tinge; lower wing-covers, white; beak and legs, black.

A typical *hirundo*. Tail deeply forked; the external rectrices narrow and elongate; secondary quills, and three or four of the proximate primaries, considerably emarginate at the tips; first quill longest.

Total length, $\dot{7}$; beak to front, $\ddot{3}\frac{1}{2}$; to gape, $\ddot{5}$; wing, $\dot{5}.\ddot{2}$; medial rectrices, $\dot{2}$; external, $\dot{3}.\ddot{4}$; tarsus, $\ddot{5}$.—*Strickland, February*, 1849.

DRYMOICA ERYTHROPTERA, JARDINE.

THIS species formed part of Dr. Gordon's collection of birds from Western Africa, but had no number of reference to his notes attached. We do not find any description agreeing with it in the works where birds from that country are mentioned; and the conspicuous rufous colour of the wings, from which we have named it, would have been an easy mark of detection. There is a great alliance between this bird and a few others, to the Indian form which we know under the designation of *Prinia*, and which, if the characters are found to agree, must be from priority the name used for the whole. In Africa, they are extremely numerous, much more so than in India; the greater number of them are larger, stronger, and more robust, and for the present, we prefer retaining *Drymoica* for the African form to joining them with *Prinia*.

The forehead, back, and shoulders, are a pale reddish-grey, very distinctly separated from the light under parts. The shoulders, lesser-covers, and edges of the quills and secondaries, with the upper tail-covers, are clear reddish chestnut-brown; quills and secondaries, with the tail, umber-brown; the latter, with a white tip and dark bar succeeding it, much graduated and of a slender form. The chin and throat nearly pure white, gradually shading into yellowish wood-brown, which becomes darkest on the vent, thighs, and under tail-covers; bill is of considerable strength, black, except the base of the maxilla, which is yellow; tarsi, feet, and claws, yellowish-brown.

Entire length, 5̇. 3̈; bill to forehead, 4̈; to gape, 8̈; wing, 2̇.2̈; tail, 2̇. 1̈; tarsus, 9̈.

ILLUSTRATIONS OF ORNITHOLOGY.

DRYMOICA MENTALIS, FRASER.

Drymoica mentalis, *Fraser*, Proc. Zool. Soc. Lond., 1843, p. 16.— *Trotter* and *Allen*, Narr. of Exped. to River Niger, ii. p. 490. App.

THE description in the proceedings of the Zoological Society seems to have been taken from an imperfect specimen, so that we trust the accompanying figure, with the account of its habits previously given (p. 7), may not be unacceptable to ornithologists. Dr. Gordon presented a specimen to the Museum in Edinburgh, which bears his Number 16. We add the dimensions from the specimen in our possession.

Entire length, $\dot{8}$; bill to forehead, $\ddot{6}$; to gape, $\dot{1}$; wing, $\dot{2}.\ddot{9}$; tail, $\dot{3}.\ddot{4}$; tarsus, $\dot{1}$.

MOMOTUS GULARIS, Lafresnaye.

Prionites gularis, *Lafresnaye*, in Rev. Zool., 1840, p. 130.

This elegant little Motmot conducts us at once from the larger species to the diminutive *Hylomanes momotula* of Lichtenstein, and seems to justify us in reuniting under one genus the closely allied groups of *Momotus* and *Hylomanes*. It also serves to illustrate the close and indisputable affinity between the Motmots and the Bee-eaters, an affinity which is by no means so generally recognised as it ought to be. I should be inclined to regard *Momotus* as merely the American form of the sub-family, *Meropinæ*, just as the Cuckoos, the Barbets, the Trogons, and the Parrots, have each their peculiar generic forms in the old world and the new. In *Momotus* and in *Merops*, we have the same lustrous sea-green plumage, the prevalence of a black streak through the eye, and of a black spot on the breast, an almost identical form of foot, and a similar prolongation of the medial rectrices. *Momotus* is mainly distinguished by the rounded form of the wing, in accordance with its more indolent habits, and by the serration of the mandibles, a character of little weight in questions of affinity, as it breaks out, *pro rê natâ*, in many remote groups of birds, unaccompanied by any other peculiarity of structure.

Momotus gularis was first described by Baron de Lafresnaye. It inhabits Guatemala, and appears to be very rare. The upper plumage is a bright sea-green, passing into blue towards the end of the tail; sides of face round the eyes, light chestnut, with an oblong black spot on the ears; throat azure blue, a black spot on the breast, formed of two or three elongate feathers, as in other species of *Momotus*; lower parts pale green, with a fulvous lustre, passing into light azure on the belly, and into chestnut on the lower tail-covers; lower wing-covers, and inner margins of remiges, also chestnut; beak horn-colour, paler at the tip; feet brown.

Total length, $\dot{10}$; beak to front, $\dot{1}.\ddot{1}$; to gape, $\dot{1}.\ddot{4}$; height, $\ddot{4}$; breadth, $\ddot{4}$; wing, $\dot{3}.\ddot{9}$; medial rectrices, $\dot{5}.\ddot{8}$; external, $\dot{2}$; tarsus, $\ddot{9}$; middle toe and claw, $\ddot{9}$; hind ditto, $\ddot{5}\frac{1}{2}$.—*H. E. Strickland.*

HOLOCNEMIS NÆVIUS, GMELIN.

SYN.—Wall-creeper of Surinam, *Edw.* Birds, pl. 346.——Sitta nævia, *Gm.* Syst. Nat. p. 442.——Lath. Ind. Orn., p. 263.——*Lath.* Syn. vol. ii. p. 634.——*Shaw,* Zool. vol. viii. p. 114.——Holocnemis flammatus, *Strickland,* in Ann. and Mag. Nat. Hist. vol. xiii. p. 415, pl. 13 (female.)

I DESCRIBED and figured the ♀ of this curious bird in 1844, in the Annals of Natural History, supposing it to be a new species, and adopted it as the type of my genus *Holocnemis,* distinguished from most other of the *Formicariinæ,* by the absence, or very slight indication of scuta on the tarsi. I subsequently suspected it to be identical with the "Wall-creeper of Surinam" of Edwards (*Sitta nævia,* auct.); but as Edwards describes his bird as of a "dark bluish lead colour," I was unable to identify it with certainty. I recently, however, met with a pair of birds in the collection of T. B. L. Baker, Esq. of Hardwicke Court, Gloucester, which clearly prove, that Edwards' bird is the ♂, and my "*Holocnemis flammata*" the ♀.

In my description of the latter bird I stated, that the habitat was unknown, but doubtless (reasoning from its organic structure, as we may often safely do) American. This conjecture is now confirmed; Edwards' bird having been procured in Surinam, and Mr. Baker's specimens in the adjacent, and comparatively little known island of Trinidad.

♂.—Dark slaty grey above, paler on the rump; wings nearly black, all the upper wing-covers with a sub-triangular terminal white spot on each feather; tail nearly black, rectrices obtusely pointed, the two external pair narrowly tipped with white; lower parts slaty grey, paler than the back; ear-covers with white shafts; throat white, mottled with slate grey; breast and middle of belly with a pointed white streak on each feather, bordered by slate grey, and the latter slightly margined with white; lower tail-covers with a white streak down the shafts, and a narrow white margin; beak horn-colour; feet and claws pale yellowish.

♀ Olive brown where the ♂ is slaty grey; otherwise similarly marked; lower mandible paler than the upper.

Total length, $\dot{6}$; beak to front, $\ddot{8}$; to gape, $\dot{1}$; wing, $\dot{2}.\ddot{7}$; medial rectrices, $\dot{2}$; external, $\dot{1}.\ddot{8}$; tarsus, $\ddot{9}$; middle toe and claw, $\ddot{9}$; hind ditto, $\ddot{7}$.—*H. E. Strickland.*

PLOCEUS PERSONATUS, Vieillot.

This very pretty species of *Ploceus* was procured for us by the exertions of Maxwell Hyslop, Esq. of Liverpool, and brought by the ships in the palm oil trade, preserved in spirits, from the vicinity of the Old Calabar river. From these we skinned and preserved our specimens of both sexes. And we mention this, that persons on a station, where time and opportunity are wanting to prepare specimens properly, may see that small birds, which can be put in spirits with very little trouble, will not be much injured afterwards. We do not recommend this practice, at the same time, under some circumstances, very valuable specimens may often be thus saved.

The figure most closely resembling our Calabar river specimens, is that in "*Vieillot's gallerie;*" but it is represented not nearly so pure or distinct in its colours. *Malimbus aurantius*, "*Vieillot Oiseaux chanteures*," may probably be the female. The birds we represent, were put into the same bottle as ♂ ♀, and we have no reason to doubt the correctness of the tickets. We could not ascertain the sex upon dissection, the female, or perhaps males immature, and without the black head, were most abundant, probably three or four to one.

♂—Forehead, cheeks and throat, deep velvet black; crown, occiput, sides of the neck and breast, rich orange-yellow, shading into greenish-yellow on the back and upper parts, and into gamboge-yellow on the lower breast and under parts; wings and tail umber brown, margined with greenish-yellow; bill black; tarsi and feet flesh colour. ♀—Without the black head; crown and upper parts brownish-yellow; under parts gamboge-yellow, paler and slightly tinted with olive on the vent; wings and tail as in the ♂; bill brownish-black; tarsi and feet flesh colour.

♂—Entire length, 4̇; bill to forehead, 4̈; to gape, 5̈½; wing, 2̇.3̈; tail, 1̇.7̈; tarsus, 8̈. ♀—Nearly equal, slightly less.

PHRYGILUS UNICOLOR, Tschudi.

Phrygilus unicolor, Tschudi Wiegm. Arch., 1844, p. 262. Tschudi and Caban. Fauna peruana, Ornith., p. 219. *Emberiza unicolor*, De Lafresn., Syst av. D'Orbig., p. 262.

THIS modestly coloured bird is a native of Peru and Bolivia, having been met with by both D'Orbigny and Tschudi on the plains of Oruro in Bolivia, and on the Cordilleira of Tacora in Peru; and to this range may now be added that of the Andes, in the vicinity of Quito, reaching an elevation of from 13,000 to 14,000 feet above the level of the sea. The structure of this bird recedes considerably from that of the true buntings, and is perhaps more tanagrine than otherwise. There is no palatial knob, and the proportions of the quills vary slightly. The tarsi and feet are rather proportionally lengthened, together with the hind claw. Tschudi considers that it holds a place intermediate between *Euspiza* and *Fringilla*, differing from them chiefly in the longer and more compressed bill, want of the palatial knob, shorter wings and tail. He arranges them following *Zonotrichia*, and appears to consider that *P. gayi*, *atriceps* and some others from those ranges, form a separate group, which in all probability they do.

Above, the plumage is uniform blackish-grey, darker on the crown, and on the quills, secondaries, and tail, nearly black. The quills are margined with a narrow edging of pale greyish-white, which appears light and silvery on the dark quills. Below, and on the cheeks, the colour is of a uniform paler tint, nearly greyish-white on the vent and under tail-covers. The bill, tarsi, and feet, appear to have been pale umber brown.

Entire length, $\dot{5}.\ddot{8}$; bill to forehead, $\ddot{5}$; to gape, $\ddot{6}$; wing, $\dot{4}.\ddot{5}$; tail, $\dot{2}.\ddot{5}$; tarsus, $\ddot{9}$ to $\dot{1}$.

TÆNIOPTERA ALPINA, JARDINE.

WE cannot identify this species with any of those described in works devoted to the natural history of Chili or Peru, though it seems to resemble the bird figured by Tschudi, under the name of *Ptyonura albifrons*. As already stated, it occurs on the highest ridges of the Andes, rarely descending below the snow limit; and from its general appearance, at once conveys the idea, that it performs there the office of the saxicoline birds of Europe.

The crown, cheeks, nape, back and wings, are brownish-grey, having in some specimens a more umber tint; the quills are brownish-black; from the nostrils to the eyes, and shading gradually over them is white; the rump, upper tail-covers and tail are black—the outer feather of the latter edged with greyish-white; the throat and breast are pale brownish-grey, shading into white on the belly, vent, and under tail-covers; the bill, the feet, and tarsi, are black—the latter very saxicoline in form.

The entire length, 7̇; bill to forehead, 6̈; to gape, 9̈; wing, 4̇.9̈ to 5̇.1̈; tail, 3̇.4̈ to 5̈; tarsus, 1̇.2̈ to 3̈.

SAXICOLA OPISTHOLEUCA, STRICKLAND.

Saxicola leucura, *Blyth*, in Journ. As. Soc., Beng., vol. xvi. p. 131.

THIS is evidently the bird referred to as *Saxicola leucura* by Mr. Blyth, as he states it to differ from his *S. picata* only in having the breast and belly black, while in the latter species they are white. As I have before me specimens of *S. picata*, I can confirm Mr. Blyth's statement of the close agreement in size and coloration of these two birds. They form in fact a parallel case to that of the *Saxicola aurita* and *S. stapazina* of South Europe, which only differ in the presence or absence of black on the throat, and whose specific distinctness is still a matter of controversy among naturalists. It is very possible, that some species of *Saxicola* may, at certain periods of life, assume additional portions of black or white into their plumage, just as many of the rufous *Tchitreæ* (*Muscipetæ*, Auct.) acquire more or less of a white coloration in old age. This may perhaps account for the immense number of species of *Saxicola* described by Rüppell, Ehrenberg, and others, as inhabiting the deserts of Africa and Western Asia. Conformably with this view, we find that in a specimen of *S. opistholeuca* before us, some of the black abdominal feathers are narrowly tipped with white, as if in the act of changing colour. Further researches, however, are required to decide this question; and meanwhile we have no choice but to regard *S. opistholeuca* as distinct from *S. picata*, until their identity be proved.

Saxicola opistholeuca agrees closely in coloration with *S. leucura* (*S. cachinnans*, Temm.) of Europe, but is considerably inferior in size. It also differs in having the lateral rectrices tipped by a continuous patch of black, while in a specimen of *S. leucura* before me, they have merely a longitudinal black spot on each side, separated by a white space, which extends to the extreme tips.

The whole head, neck, upper back, wing-covers, breast, belly and lower wing-covers, deep sooty black; remiges and primary covers fuscous, narrowly edged with pale rusty; secondaries narrowly tipped with whitish; tibiæ mixed brown and whitish; rump, vent, upper and under tail-covers and greater part of tail, snow white; medial pair of rectrices black at the extremities, for about one and a half inch, and the remainder for about half an inch. Beak and feet black. Female similar, but brown where the ♂ is black.

Length, $\dot{5}.\ddot{7}$; beak to front, $\ddot{5}$; to gape, $\ddot{7}$; wing, $\dot{3}.\ddot{7}$; medial and external rectrices, $\dot{2}.\ddot{7}$; tarsus, $\ddot{11}$.

The specimen here figured was procured by Captain Boys in Northern India, and is now in the collection of P. L. Sclater, Esq., Corpus Christi College, Oxford. Mr. Blyth states, that it is common about Agra.—*H. E. Strickland.*

NECTARINIA NATALENSIS, JARDINE.

Var. Zanzibar.

Mr. Edward Wilson having purchased Mon. Bourcier's collection of *Nectariniæ* for his brother's extensive ornithological museum in New York, kindly transmitted them to me for examination before being sent abroad. The collection was accompanied by M. Bourcier's list of the species, to which M. Verreaux, the well known collector in Paris, had added observations chiefly based upon his experience of these birds, gained during his residence at the Cape of Good Hope. In the list of the former, the species which we have now figured was marked "espece nouvelle;" but M. Verreaux observes regarding it, "Cette espece indiquè comme nouvelle sur le catalogue de Bourcier, ne m'a jamais paru d'etre la memê que celle decrit et figureé par Sir W. Jardine dans le Nat. Lib. pl. 12.—Tous les individus que j'ai vu venant du cap, n'etoient jamais du meme rouge vermillion de cette individu que j'ai vu venir assez souvent de Zanzibar, j'engage dont Sir W. Jardine a bien comparer les deux oiseaux, que je regard comme deux especes parfaitment characterisées, et veuillez je vous prie, m'en faire savoir le nom."

On comparing this bird with M. Bourcier's specimen of *N. natalensis* in its ordinary plumage, and my own specimen, which was used for the figure referred to by M. Verreaux, the distribution of the markings is almost identical, as much so as in any two or three specimens slightly varying in size; my Natal specimen is rather larger than M. Bourcier's, and both are larger than the Zanzibar bird. The principal distinction is in the colour of the throat and breast, which M. Verreaux states is similar and constant in specimens from Zanzibar, in these the throat and breast are of a vivid vermillion red, whereas in the others the same parts are scarlet or a rich carmine red. In the Zanzibar specimen the coronal patch seems to extend rather farther back, but without seeing more specimens, this can scarcely be judged of. The dimensions of the three specimens now before us, are as follows:—

Jardine Hall Specimen.—Entire length, $\dot{5}.\ \ddot{9}$; bill to forehead, $\dot{1}$; wing to longest quill, $\dot{3}$.

M. Bourcier's Specimen.—Entire length, $\dot{5}.\ \ddot{2}$; bill to forehead, $\ddot{9}$; wing to longest quill, $\dot{2}.\ \ddot{7}$.

Zanzibar Specimen.—Entire length, $\dot{4}.\ \ddot{5}$; bill to forehead, $\dot{9}$; wing to longest quill, $\dot{2}.\ \ddot{7}$.

There is a considerable difference in the size of the three specimens; but the length of the wing, which is most to be depended upon, is the same in two of them, and not very different in the large one; upon the whole, we incline to consider the Zanzibar species as only a local variety.

PIONUS GULIELMI, JARDINE.

"CONGO JACK," the parrot represented on the accompanying plate, was brought home alive by my son from the West Coast of Africa, on his return from a three year's cruise in H. M. S. Favourite. Several birds were brought down from the river Congo, together with a large lot of the common grey parrot, *Psit. erythacus*, but possessing no accomplishments, and being unacquainted with the modern languages, one only of this species was retained. This form of parrot, belonging to Wagler's restricted genus *Pionus*, is very limited in Africa, they are *P. meyeri*, *flavifrons*, *rufiventris*, Rüpp., *rüppellii*, Gray, and probably *timneh*, FRAS., and after making every examination that has been accessible, we have been unable to reconcile the bird in our possession with the description of any of them. Since its arrival in this country, it has got into good health and fine plumage, and is now perfectly tame and gentle with those it is accustomed to, though it still expresses its distrust to strangers, or to a dog coming near it. Its accomplishments consist only of a whistle or scream. We have no information of its habits or food in Africa; on the voyage home it was fed on ground nuts, the seed of *arachis hypogea*, which it preferred to every thing else here so long as they lasted. Now, maize, millet and hemp seed are its chief food, the last being the most preferred.

It is difficult to measure a living bird accurately; but so far as we could, the dimensions given are nearly correct. The tip of the maxilla and the whole of the mandible, greyish-black; the base of the maxilla, cere and bare space surrounding the eye, flesh colour. The forehead and crown in a line with the posterior edge of the orbit; the bend and edge of the wing and lower part of the thigh (or garters as they are called) bright yellowish scarlet; the space between the eye and bill, and surrounding the lower part of the naked skin, greyish-black, which shades into greyish-green on the cheeks and auriculars; the occiput, nape, sides of the neck, breast and belly, are bright yellowish-green; the rump, vent, under tail-covers and thighs, greenish-yellow, the centre of the feathers tinted with yellowish-scarlet, giving in some lights a reddish appearance to those parts; the back and all the wings, except the quills, black, each feather edged with a bright green, darker in tint than that of head and neck; the green edges on the back being very broad, and in some positions having little of the black seen; on the wings, narrow, except on the greater covers, where they are broad and conspicuous on the outer webs; the tail is black, the two centre feathers cuneated, and having a very narrow green edge; tarsi and feet, greyish-black; claws, black.

The entire length, as near as could be ascertained, 1̇0. 5̈; of wing to end of longest quill, 8̇.

Mr. Blyth, the curator of the Calcutta Museum, who has most zealously pursued the zoology of India, has lately forwarded to us a series of drawings of those species which run most into the European forms. Many of these are very remarkable, and increase genera to several species, which previously contained only a single one, or were extremely limited. These drawings are executed by a native artist, very minutely and accurately, but in most instances with an Indian mannerism; nevertheless, we have thought it better to give, as far as possible, fac-similes of them, than to attempt to introduce accessories. They will appear from time to time, and will have the advantage of Mr. Blyth's remarks.

ERYTHACA FLAVOLIVACEA, Hodgs., Fig. 1.

Nemura flavolivacea, *Hodgs.*, in Proc. Zool. Soc., 1845, p. 27.——Ianthia flavolivacea, *Blyth*, in Journ. As. Soc. Beng., vol. xvi. p. 133, 474.

"The genus *Erythaca*, typified by the common Robin of Europe, has hitherto been very limited in extent, containing, besides the type, only one or two little known species from the Japanese Islands (*Sylvia akahige*, and perhaps *S. komadori* of Temminck, Pl. Col. 570, 571). The researches of Mr. E. Blyth, Curator of the Asiatic Society's Museum at Calcutta, have, however, brought to light at least one more species of genuine *Erythaca*."

This bird is thus described by Mr. Blyth:—"Upper parts uniform fulvescent olive; loral region and throat, rufescent white; rest of lower parts dilute rusty; beak dusky; base of lower mandible pale; legs pale. Total length, $\dot{5}.\ddot{5}$; wing, $\dot{2}.\ddot{8}$; tail, $\dot{2}.\ddot{3}$; tarsus, $\dot{1}.\ddot{1}$."

He adds, in a note accompanying the drawing, "I consider this dull coloured species to be a typical *Erythaca*, having merely the bill somewhat more slender than in the European bird; and I have little doubt that the sexes will prove to be similar, as all that I have seen have been alike."

Inhabits Nepal and Darjeeling.

by Google

IANTHIA HYPERYTHRA, BLYTH, Fig. 2.

Blyth, in Journ. As. Soc. Beng., v. xvi. p. 132.

"THERE is in India, a group of birds, which if not generically identical with *Erythaca*, are evidently in close proximity with that genus. Two of the species are distinguished by the blue colour (most conspicuous in the males) of their upper parts, resembling herein the allied American genus *Sialia*. To these Mr. Blyth gives the generic title *Ianthia*, to which he assigns as characters, 'a more delicate conformation than *Erythaca ;* longer wings (reaching halfway down the tail); much weaker bill; longer and more slender claws, especially that of the hind toe; and the sexual diversity of colouring.' The species thus classed are, 1. *I. hyperythra*, Blyth; and, 2. *I. rufilata*, Hodgson. I confess, however, that after a careful comparison of one of these (*I. rufilatus*), and of Mr. Blyth's drawing of the other, with the British *Erythaca rubecula*, I do not see sufficient structural difference to warrant their generic separation, although we have not ventured to change the names attached by Mr. Blyth to the drawings which he has kindly sent us, and of which we now proceed to publish fac-similes.

"These *blue robins* present a remarkable analogy in colouring with the *blue flycatchers* of India (*Cyornis*, Blyth), and it seems not improbable that this analogy may be a true affinity, connecting the *Sylviadæ* with the the *Muscicapidæ*."—*H. E. Strickland.*

"Upper parts of ♂ deep indigo blue, brightening to ultramarine on the forehead and above the eyes and upon the shoulder of the wing; the wings and tail black, the feathers margined with blue externally; lower parts bright yellowish ferruginous, confined to a narrowish streak on the middle of the throat and foreneck; lower tail-covers and centre of the belly white. The ♀ a rich brown above, approaching the colour of *Erythaca rubecula ;* or rather, the feathers are merely tipped with this colour, showing more or less of the cinereous dusky tint within; tail blue, as in the ♂; the rump a lighter and more greyish blue; there is also a little blue on the shoulder of the wing, and a greyish blue supercilium brightening posteriorly; lower parts tawny brown or subdued fulvous, except the lower tail-covers, which are white. Bill and feet, dusky in both sexes.

"Total length, $\dot{5}.\ddot{5}$; beak to gape, $\ddot{5}\frac{1}{3}$; wing, $\dot{3}.\ddot{1}$; tail, $\dot{2}.\ddot{3}$; tarsus, $\dot{1}$.

"Inhabits Darjeeling."—*E. Blyth.*

90-18

PACHYCEPHALA MACRORHYNCHA, STRICKLAND.

"THE specimen here figured, was purchased by E. Wilson, Esq., from M. Ed. Verreaux, with the label—'*Pachycephala albicollaris*, Amboina,' attached. This name has, I believe, never been defined or published, and much confusion is caused by the objectionable practice of supplying museums with specimens which have these unauthenticated MS. names attached. It is not, however, on this ground, that I have altered the specific name invented by M. Verreaux, but because the designation itself is wholly incorrect, the bird being merely *white throated*, and not *white collared*, as the name *albicollaris* would imply. Indeed, the whole arrangement of the colours so nearly agrees with the well known *Pachycephala gutturalis*, *P. melanura*, &c., of Australia, that it would not be easy to found an appropriate title on the coloration alone, and I have therefore adopted the more expressive name of *macrorhyncha*.

"The discovery of a bird of the Australian genus *Pachycephala*, so far to the north as Amboina, is a very interesting circumstance, the more so as its peculiar form appears to furnish a clue to the true affinities of what has hitherto been an anomalous and puzzling genus. The small group of birds comprising the genera *Pachycephala* and *Eopsaltria*, has been classed quite at random by most previous writers, who seem to have had no idea of its real affinities, and have been content to place it, from some fancied resemblance, in the utterly remote American families, *Ampelidæ* and *Vireoinæ*. The bird before us, though unquestionably a true *Pachycephala*, is distinguished by a beak considerably longer and more compressed than in the other species. In this respect it offers so much resemblance to certain genera of *Laniidæ*, as to leave scarcely any doubt that the *Pachycephalinæ* ought to stand as an Australian subfamily of that extensive group. This view is confirmed by the observations of Mr. Gould, who has shown, that their habits are similar to those of the Shrikes, and who was the first to class them in that family. It is more especially the African subfamily of *Laniidæ*, comprising *Laniarius*, *Telophorus*, &c., to which the *Pachycephalinæ* show an affinity; and this relationship is indicated, not merely by the peculiar form of the beak, but by great similarity of colouring, as will be evident on comparing the African *Telophorus zeylonus* (Linn.) or *Laniarius olivaceus* (Shaw) with their Australian representatives.

"Crown and sides of head deep black; chin and throat white, below which is a narrow black band; lower parts, and a band across the nape, deep gamboge yellow; back and scapulars dark olive green, with a few obscure narrow transverse bars of black on the medial portion of some of the feathers; wing-covers and remiges dusky black, narrowly bordered with olive green; tail plain dusky black; beak black; feet flesh colour.

"Total length, about $\dot{7}$; beak to front, $\ddot{7}$; to gape, $\ddot{8}\frac{1}{2}$; height $\ddot{2}\frac{1}{2}$; breadth, $\ddot{2}\frac{1}{2}$; wing, $\dot{3}.\ddot{8}$; medial and external rectrices, $\dot{3}.\ddot{1}$; tarsus, $\ddot{9}$; hind toe and claw, $\ddot{6}$; middle ditto, $\ddot{8}$; outer toe about $\ddot{1}$ longer than the inner."—*H. E. Strickland.*

BRACHYPTERYX POLIOGENIS.

"THIS curious bird was obtained by Mr. Wilson from M. Verreaux, with the words '*Myiothera poliogenys*, Boie, Borneo,' attached. It evidently belongs to the genus *Brachypteryx* of Horsfield, but differs from his type-species in the shortness of its tail, which gives it a great analogy (though in my opinion no affinity) to some of the American *Formicariinæ*, such as *Formicarius*, *Leptorhynchus*, &c. Like the other Timaliine birds which abound in the Malasian Archipelago (*Malacopteron*, *Macronus*, &c.) the rump feathers are remarkably long and dense, and when expanded laterally, seem admirably adapted to protect the bird from tropical showers.

"I have altered the spelling of the specific name from *poliogenys* to *poliogenis*, as the former word would imply *grey-bearded* instead of *grey-cheeked*.

"Crown dirty brown, with a rufous tinge; back and wings pure brown, passing into tawny towards the rump; rectrices fuscous brown, margined with rufous; circuit of the eye and cheeks pure grey, passing into black towards the angle of the mouth; lores whitish; chin white; breast, sides, lower wing-covers, thighs, and lower tail-covers, pale tawny; middle of belly white; upper mandible corneous; lower whitish; feet and claws pale yellowish.

"Total length, $\dot{4}.\ddot{5}$; beak to front, $\ddot{6}$; to gape, $\ddot{7}\frac{1}{2}$; wing, $\dot{1}.\ddot{5}$; medial rectrices, $\dot{1}.\ddot{2}$; external, $\dot{1}.\ddot{1}$; tarsus, $\dot{1}.\ddot{1}$; hind toe and claw, $\ddot{6}$; middle ditto, $\ddot{8}$."—*H. E. Strickland.*

PERICROCOTUS MINUTUS.

"Mr. Wilson purchased this beautiful little species from M. Verreaux, under the MS. name, '*Phœnicornis minutus.*' The locality is stated to be Borneo. In the same collection is another specimen, also from Borneo, slightly larger, with the wing 2̈ longer, and the beak a mere trifle longer and broader; but in all other respects of form and colour the two birds are identical. I do not, therefore, venture to separate them, although M. Verreaux has labelled one specimen with the title, '*Phœnicornis brevirostris minor.*'

"The plumage of this bird closely resembles that of the larger scarlet and black species of *Pericrocotus*, viz.—*P. speciosus, miniatus, flammeus*, and *brevirostris*, from all of which it is at once distinguished by its diminutive size, which does not exceed that of the small grey-headed *P. peregrinus*.

"♂. Whole head, neck, and upper back, deep glossy black; wings black; first and second primaries plain black; third and fourth with a sub-basal yellowish spot on the inner web; rest of primaries, and all the secondaries, with a large medial patch of scarlet covering both webs, but divided by the black shaft; greater wing-covers largely tipped with scarlet; tertials plain black; tail black, the four lateral pair of remiges largely terminated with scarlet; rump, upper tail-covers, breast, and lower parts, vivid orange scarlet; lower-wing covers orange yellow; beak and legs black.

"♀. Grey above; wings and tail black, marked with orange yellow; rump and upper tail-covers orange scarlet; lores, chin, and lower parts yellowish.

"Total length, 5̇.7̈; beak to front, 4̈; to gape, 5½̈; wing, 7̈; medial retrices, 2̇.5̈; external, 1̇.4̈; tarsus, 6̈; middle toe and claw, 6̈; hind ditto, 4̈."—*H. E. Strickland.*

CYANOCORAX NANUS, DUBUS.?

Cyanocorax nanus, *Dubus,* in Bulletin Acad. Roy. de Bruxelles,
Revue Zoologique, 1848, p. 243.

THE Mexican bird above described by Vicomte Dubus, agrees in every respect with the specimen here figured, except as regards his expression, "gutture albocœrulescente;" while in my bird the throat is deep blue-black. Should it prove to be distinct, I would propose for it the name of *Cyanocorax pumilo.*

This elegant little bird is about the size of *Turdus musicus,* and is probably the smallest species, not only of its genus, but of the whole family of *Corvidæ.* But small as it is, the curved culmen of the beak agrees rather with that of the robust blue crows *(Cyanocorax)* of South America, than with the slender formed blue jays, *(Cyanocitta)* of Mexico and North America.

Plumage deep indigo-blue, brightening into Prussian blue on the crown, hind neck and upper breast, and passing into blue-black on the throat and chin; front, lores, and ear-covers, deep black; a narrow line of bluish-white feathers extends across the front and over each eye to the temples; remiges and rectrices black on the under sides; beak and feet, black.

Total length, $\dot{9}.\ddot{2}$; beak to front, $\ddot{8}\frac{1}{2}$; to gape, $\dot{1}$; height, $\ddot{3}$; breadth, $\ddot{3}\frac{1}{2}$; wing, $\dot{4}.\ddot{5}$; medial rectrices, $\dot{4}.\ddot{5}$; external, $\dot{3}.\ddot{8}$; tarsus, $\dot{1}.\ddot{2}$.

I received this rare and beautiful species from Guatimala.—*H. E. Strickland.*

PHYLLOSCOPUS TRIVIRGATUS.

"**Sylvia trivirgata,** *Temm.*" — **Verreaux MS.**

THE genus *Phylloscopus*, of which three species inhabit the British Islands, attains its greatest development in continental India, where Mr. Blyth has discovered and described numerous species. Some of these, instead of being unicolorous on the upper parts, as in the majority of *Phylloscopi*, exhibit a yellowish streak on the crown, and thus lead us to the genus *Regulus*, which is distinguished by the vivid tint of its coronal feathers. The bird before us belongs to this aberrant division. It inhabits the Island of Java, from which we already possess another species of true *Phylloscopus*, *P. javanicus* (Horsf.) In plumage it greatly resembles the broader billed but closely allied *Culicipeta burkei* of India.

Middle of crown olive yellow, which occupies the inner webs of the feathers, the outer webs being deep fuscous, nearly black, with an olive tinge, forming a broad dark stripe on each side of the crown. Between this and the eye is a superciliary streak of clear yellow; a streak of fuscous passes through the eye; the cheeks, throat, and lower parts, are light yellow, with an olive tinge; back and wings yellowish olive; remiges and rectrices fuscous, margined externally with yellowish olive; beak horn coloured; base of lower mandible pale; legs brown.

Total length, 4̇; beak to front, 4̈; to gape, 5̈; wing, 2̇.2̈; medial rectrices, 1̇.8̈; external, 1̇.6̈; tarsus, 7̈.—*H. E. Strickland.*

PYCNOSPHRYS GRAMMICEPS.

"Sylvia grammiceps,"—Verreaux, M S.

THIS curious little bird appears to belong to a new genus, which I propose to designate *Pycnosphrys*, from πυκνὸς, thick, and ὀσφρῦς, the rump or loin, in reference to the length and density of the uropygial feathers. Its affinities are not easily determined. With the general form and coloration of a Sylviine bird, it unites the beak of the *Muscicapidæ*, and the dorsal plumage of the *Timaliinæ*. It must probably be regarded as belonging to the *Muscicapidæ*, in which family we find at least one genus *(Philentoma)* possessing the same development of the dorsal feathers, though in other points of structure they are very distinct, the beak of *Philentoma* being more depressed, the rictal bristles longer, and the tarsi proportionally shorter,

GENERIC CHARACTER.—Beak moderately depressed, the length almost double the breadth; sides nearly straight, very slightly concave; the culmen rather sharp, straight for its basal third, then gradually curved to the tip, which is emarginate and slightly overhangs the lower mandible; margin of upper mandible very slightly decurved; lower mandible nearly straight; gonys gradually curved upwards; nostrils ovate; rictal bristles about half the length of the beak; wing of moderate length, rounded; first quill short, fourth and fifth longest; uropygial feathers, very long, thick, and decomposed; tail rather long, narrow, the rectrices pointed; tarsi (for a Muscicapine bird) long; acrotarsia and paratarsia entire; toes moderately long; external toe very slightly longer than the inner; claws moderately curved, slender, acute.

Head, nape, and cheeks, deep ferruginous, with an indistinct fuscous stripe on each side of the crown; upper back greyish-brown; wings yellowish-olive; middle and greater covers tipped with yellowish-white; rump-feathers long, silky, and pure white; tail fuscous, margined externally with yellowish-olive towards the base; the outer pair of rectrices narrowly margined internally, and externally at the base, with whitish; chin whitish; breast tinged with ferruginous; belly, sides, and vent, silky white; thighs yellowish-olive; upper mandible fuscous; lower whitish; legs brown.

Total length, $\dot{3}.\ddot{7}$; beak to front, $\ddot{3}$; to gape, $\ddot{5}$; wide, $\ddot{1}\frac{3}{4}$; high, $\ddot{1}\frac{1}{4}$; wing, $\dot{1}.\ddot{9}$; medial rectrices, $\dot{1}.\ddot{7}$; external, $\dot{1}.\ddot{6}$; tarsus, $\ddot{6}\frac{1}{3}$; hind toe and claw, $\ddot{4}$; middle ditto, $\ddot{4}\frac{1}{3}$; external, $\ddot{3}\frac{1}{4}$; internal, $\ddot{3}$. —*H. E. Strickland.*

TRICHOSTOMA UMBRATILE.

(*Hind Figure*).

Among the birds lately purchased by Mr. Wilson from M. Verreaux, and obligingly communicated to us by the former gentleman, are two distinct species, which resemble each other considerably in colour, and which M. Verreaux seems to have confounded together, as both birds bore the same MS. title "*Napothera umbratilis*, Temm." The localities however are different, one being from Borneo and the other from Celebes. The above specific name being, I believe, unpublished, I have no means of deciding which of the two species M. Temminck intended to designate *umbratilis*; but not wishing to supersede this title altogether, I have retained it for that species, which, from its pure umber colour, seems best to deserve the name.

These two birds belong to that peculiar Malasian group of shrike-like or thrush-like birds, distinguished by the density of their dorsal plumage, of which the genus *Timalia* is the type. In the general form of their beaks they approach *Malacopteron*, Eyton, and *Goldana*, Blyth; but the considerable development of the rictal bristles refers them to a separate genus, which Mr. Blyth terms *Trichostoma*.

The species to which I retain the specific name *umbratile*, inhabits Borneo; and in the length of the rictal bristles and breadth of the beak, makes the nearest approach to Mr. Blyth's typical *Trichostomæ*. The whole upper plumage is rich rufous brown, darkest on the head, and becoming more rufous on the outer margins of the secondaries and rectrices; chin and middle belly whitish; breast and sides dirty brown; beak dark corneous; legs pale; first, second, and third primaries, graduated; fourth, fifth, and sixth, equal and longest.

Total length, $\dot{5}.\ddot{7}$; beak to front, $\ddot{6}$; to gape, $\ddot{8}$; wide, $\ddot{3}$; wings, $\dot{3}$; medial rectrices, $\dot{2}.\ddot{5}$; external, $\dot{2}.\ddot{2}$; tarsus, $\ddot{7}$; hind toe, $\ddot{4}$; middle ditto, $\ddot{7}$; rictal bristles, $\ddot{5}$.—*H. E. Strickland.*

TRICHOSTOMA CELEBENSE, Strickland.

(*Front Figure*).

The other specimen which M. Verreaux labelled *Napothera umbratilis*, is from Celebes, and is very similar to the Borneo species, but has the beak considerably narrower and the rictal bristles somewhat shorter and less rigid; the wings and tail are a more decided rufous; the breast is faintly tinged with brown; the beak is a lighter brown, with the under mandible palest, and the legs are plumbeous or brown; the feet and toes are considerably longer and stronger, as will be seen by comparing the measurements of the two species.

Total length, $\dot{5}.\ddot{7}$; beak to front, $\ddot{6}\frac{1}{2}$; to gape, $\ddot{8}$; width, $\ddot{2}\frac{1}{2}$; wing, $\dot{2}.\ddot{7}$; medial rectrices, $\dot{2}$; external, $\dot{1}.\ddot{9}$; tarsus, $\dot{1}$; hind toe and claw, $\ddot{6}$; middle ditto, $\ddot{8}$; rictal bristles, $\ddot{5}$; first, second, and third primaries, graduated; fourth, fifth, and sixth, nearly equal, but fifth rather longest.—*H. E. Strickland.*

GOLDANA CAPISTRATOIDES.

" Myiothera capistratoides, *Temm.*"—Verreaux, MS.

THIS bird, like the "*Myiothera capistrata*" of Temm., Pl. Col. 185, f. 1, from the similarity to which it takes its name, belongs to Mr. Blyth's genus *Goldana*, which differs from *Malacopteron*, Eyton, in the feebler and more slender form of the beak. It closely resembles *G. nigrocapitata* (Eyton), the chief difference being the darker colour of the cheeks in the present bird. Like all its congeners, it is distinguished by the long dense and downy texture of the uropygial feathers.

Crown and nape black, a white streak from the nostril over the eye to the hind head; lores, cheeks, and ear-covers, dark fuscous grey; back and wings nearly uniform ferruginous brown; rectrices fuscous, margined with ferruginous brown; chin and throat pure white; breast pure ferruginous, passing into whitish on the belly, and into ferruginous brown on the sides, vent, thighs, and lower tail-covers; upper mandible fuscous; lower, white; feet brown.

Total length, 6̇; beak to front, 6̈; to gape, 8̈; wing, 2̇.8̈; medial rectrices, 2̇.5̈; external, 2̇.2̈; tarsus, 1̇.1̈; middle toe and claw, 9̈; hind ditto, 7̈;

Inhabits Borneo.—*H. E. Strickland.*

PACHYCEPHALA ORPHEUS, Jardine.

"Hylocharis orpheus, ♀."—Verreaux MS.

This bird, named on our plate *Hylocharis orpheus*, is another of the interesting species sent to us by Mr. Wilson, and the figure is now given to direct attention to those very curious but unobtrusive forms that appear to swarm over the islands of the Indian Archipelago. The generic name on M. Verreaux's MS. ticket, which is inscribed upon the plate, has been already applied to a genus of Humming Birds; but independent of that, after a close examination as to its proper position, we have been unable to separate it from *Pachycephala*, to the females of which it closely assimilates in colour and markings; and as we have already seen the figure of *P. macrorhyncha*, in our last Part, that the form reaches from Australia to the Indian Islands, the bird before us is of additional interest on that account. We give the description and measurements, and ask our friends to look out for us for the male of this species.—The ticket is marked *Timor*.

Above, the crown is of a greyish brown; the back is yellowish oil-green, shading into dull Indian yellow on the rump and upper tail-covers, and the tail is nearly of the same tint; the wings umber-brown; the outer edges of the quills and secondaries yellowish-white—beneath, the chin and throat are white; the breast and belly pale reddish ochre-yellow, shading on the vent and thighs to pale Indian yellow, and again on the vent and under tail-covers to clear and bright Indian yellow; bill dark umber brown; feet and legs grey or lead colour.

Length, $\dot{5}$; bill to forehead, $\ddot{4}$; to gape, $\ddot{7}$; wing, $\dot{2}.\ddot{9}$; tail, $\dot{2}.\ddot{5}$; tarsus, $\dot{9}$.

DESCRIPTION OF SOME NEW SPECIES OF BIRDS.

BY

T. C. EYTON, Esq., F. L. S., &c.

NASICA BRIDGESII, Eyton.

Nasica, doro coudaque ferrugineis, fronte verticeque brunneis lineâ lata superciliari, gulâ et singulis pennis pectoris, abdominis, crissique mediis partibus laté albis, his marginibus atris et brunneis fimbriatis: rostro, mandibula superiore atrâ, inferiore carneâ tarsis pedibusque atris.

Long. corp. 13̇; tarsi, 15̈; rost. front. 2̇.2̈.

This species may be at once distinguished from *Nasica longirostris*, by the more slender and curved bill, in which respect it approaches the genus *Xiphorhyncus*. The back and tail also are not nearly of so bright a ferruginous as in the first named bird. The first specimen I observed was in Lord Derby's museum, and was obtained by Mr. Bridges in the interior of Bolivia, since which time I have obtained one from the same source, and purchased another in Liverpool; one of my specimens has a few spots of white on the centre of each of the feathers on the back of the neck.

CAPITO SULPHUREUS, Eyton.

Capite atro coccineo, occipite cinereo, gulâ abdomineque sulphureis, pectore aurantiaco, hoc viridi strigato, reliquis partibus viridibus.

Long. corp, 5̇.5̈; rost. fronte, 7̈; tarsi, 9̈. Juv. adulto similis sed capite nigerrimo.

I observed the above new species of *Capito* in Lord Derby's museum at Knowsley; it is nearly allied to *C. richardsonii*, Gray, but differs from it in having the head black, and the tips of the feathers deep crimson, while in the latter, the feathers are entirely crimson, and not of so deep a tint.

CAPITO CAPISTRATUS, Eyton.

Viridis fronte, genis lineâque superciliari cinereis, gulâ notâque supra naribus ad basin rostri atris, vertice, occipite capistroque lœte aurantiacis, partibus inferioribus sulphureis viridi strigatis reliquiis viridibus, tarsis pedibusque atris, rostro marginibus flavis reliquis atratis.

Long. corp. 5̇.2̈ ; ros. fron. 8̈ ; tar. 9̈.

The above bird is nearly allied to *Micropogon haurtlaubii*, Rev. Zool. 1845, but differs from it in wanting the black band on the breast. Specimens of it are in the Knowsley Museum and my own. Mine were purchased from Mr. Warwick, but I am not aware of the locality from which they were obtained.

ANABATES FLAMMULATUS, Eyton.

Anabates capite, pectore, collo dorsoque atris singulis pennis medio flavo brunneo laté strigatis, dorso imo rectricibusque alarum olivaceo castaneis, ventre crissoque ochraceo flavis similitèr pectore strigatis caudâ ferruginea rostro pedibusque nigris.

Long. corp 3̇.5̈; ros. fron. 10̈ ; tarsi 1̇.1̈.

My specimen was obtained from New Grenada. I observed also two specimens in the Knowsley collection. The form of the bill in this bird precisely resembles that of *Anabates cristatus*, Spix.

NOTICE

OF SOME

NEW OR RARE BIRDS WHICH HAVE OCCURRED

IN THE

BRITISH ISLANDS IN 1849.

SCOLOPAX BREHMI, KAUP.

THE number of the feathers composing the tail of birds has been by most ornithologists considered of sufficient importance to form a specific distinction, where the species were otherwise nearly allied. This was the case in the genera *Scolopax* and *Phalacracorax*. In the Snipes it was one of the first characters almost that were examined; but some ornithologists of great experience appear to consider *number* as of no specific consequence. Temminck states, that the common snipe possesses fourteen tail-feathers in its *normal* state, but that birds which have sixteen or twelve feathers, and otherwise, are very similar in plumage, are only *abnormal* variations from the ordinary or *normal* form; and from this opinion he makes the *S. brehmi* of Kaup, with sixteen tail-feathers, and the *S. peregrina* of Brehm, with twelve feathers, as only *abnormal* or occasional variations from *S. gallinago*. In like manner he carries out this theory with the cormorants. Of the *P. cormoranus* or *carbo* he writes: " Le nombre des pennes caudales n'est pas un indice pouvant servir de charactère distinctif de l'espèce; leur nombre, à l'état normal, est à la vérité de 14, mais nous avons vu des individiis ayant seulment 12 pennes, et plus rarement portant 16 rectrices."

Mon. Schlegel, in his " Revue critique," considers, that in the Snipes, described as *S. gallinago* and *brehmi*, " Le nombre et la distribution des teintes des pennes de la queue, sont sujets a varier selon les individus;" and he does not allow either *S. brehmi* or *peregrina* to be species. But while holding this opinion in regard to the Snipes, he differs from Temminck in *Phalacrocorax*, for he writes: "Il n'existe, dans l'Europe septentrionale, que deux espéces de cormorans, qu'il est aisé de distinguer, l'une de l'autre dans tous les âges, *par le nombre des pennes de la queue*."

The only Snipe which we do know to have the number of the tail-feathers uncertain, is the remarkable *S. stenura* of India, which varies in having from twenty to twenty-six tail-feathers. In this bird the want of size and development of the tail seems to be compensated by numbers, and one or two pairs of the very abortive external feathers may occasionally be wanting. Those specimens of *S. major* which we have examined have been constant in the number of their tail-feathers, and the bird may be easily distinguished otherwise. So also are those of *S. wilsonii*. In *S. gallinago* the tail, when expanded, forms a perfect circle. In the *S. brehmi*, independent of number (sixteen tail-feathers), the outer feathers are longest, so as to form as it were a double fork. The occurrence of two Snipes with this structure, at Jardine Hall, in October last, induced us to announce its capture as the *S. brehmi;* and the accompanying illustrations of the form of the tail, the distinctions given by the Prince of Canino, with those observed in the specimens killed here are now given, with the view of drawing attention to the subject, and to endeavour to ascertain whether these variations in structure and number should be considered as specific, or only accidental state of the different parts.

On the 7th and 8th of October, the wind had been east and north-east, and a gale of considerable force. On the 9th and 10th the frost was hard, and a good deal of ice on the springs, and on these days there were a large number of Snipes on all the higher grounds. They lay very close, were evidently fatigued, and were no doubt portions of a flight on their passage. Eight were put up from a few rush bushes, growing in a space of twenty yards square, from which the specimen alluded to was shot. Next day scarcely a Snipe was to be found.

URIA LACRYMANS.

SPECIMENS of this bird were sent to us this summer from the coast of Caithness, by the attention of Mr. R. Shearer of Thrumster. The accompanying letter stated, that it is found in considerable abundance around the rocky shores. They commonly sit mixed with the common Guillemot, but are too far distant to be distinguished, and are therefore only obtained accidentally. If, however, a Guillemot is observed on a ledge of rock by itself, and within range of shot, it seldom fails to be one of the bridled sort; and although it may be considered rare in comparison with the common Guillemot, which breeds in thousands, it may be found on all our east coast, extending from Wick to the Ord Head.

OCCASIONAL VISITANTS TO ORKNEY.

A NOTE from Mr. Heddle, the co-author with Dr. Blackie of The Natural History of Orkney, dated 13th April last, mentions, that "a long succession of easterly gales brought us the other day two grey Shrikes, a willow Warbler, and a hedge Accentor, all with us extremely rare visitants."

BREEDING PLACE OF *THALASSIDROMA PELASGICA*.

A NOTE from the Rev. Henry Graham, Iona, describes the breeding place of this bird on the small island of Soy, about three miles south of Iona. "The nest is formed in a burrow, varying from three to four feet deep; they are made in the grassy banks; the soil being soft and unctuous, cuts with a spade like new cheese; the nest itself is formed of a little dried grass or moss; the birds make no attempt to escape when their nest is dug up. I should add, the burrows all face to the north, and are about eighty feet above the level of the sea." From the date of the above note, the birds would arrive at their breeding place about the beginning of July, and are very late in breeding; for a second note, in reply to some queries, dated 22d October, was accompanied with a specimen of the young, only about half fledged, which had been procured on the 13th, and stated, that they would be fully fledged in a week or so. Mr. Graham adds, "The burrows are most undoubtedly made by the birds themselves; the entrance is large, and has the appearance of a rabbit hole; but from this there branches off two or three small passages, penetrating deep into the bank, and each of which is occupied by a nest; the nest is not at the extreme end of the passage, for it extends beyond, and when disturbed, the birds retreat off the nest to the farthest end of the hole."

BOSCHAS BIMACULATA.

Mr. Gould writes, that a specimen of this bird was sent to him in December for inspection, by Gardener of Oxford Street. "It was a male, somewhat indistinctly marked about the neck, but in other respects agreed with Vigors' specimen. It had been caught in a decoy in Norfolk, and I believe sent to Leadenhall market."

BRITISH DISTRIBUTION OF *MOTACILLA BOARULA*.

The instances of this species incubating to the southward of Yorkshire are exceedingly local, and its appearance as a winter visitant is even accounted somewhat rare. Mr. Gould writes, in reply to some other queries, "During a trout excursion in June last, to Chemies* in Buckinghamshire, Mr. John Dodd called my attention to a species of Wagtail, which had built its nest in a rose bush, trained against a wall in his garden. Judge my surprise when I there found a beautiful black-throated *M. boarula*, sitting on four eggs, and so fearless of observation as almost to admit of my touching her. Mr. Dodd permitted me to take the eggs for my son's collection; and a greenfinch having a nest close bye, four of its eggs were transferred to that of the Wagtail; they were hatched in due time, and the young partially reared by their foster parents. The circumstances above detailed induced me to seek for others in the same districts, and I met with a second pair the next day at Elliot's Mill, about two miles and a half higher up the stream. I farther ascertained, that this species was not uncommon as a summer resident, and that the yellow Wagtail, *Budytes flova,* so universally dispersed over the country, was seldom or ever seen there.

---

* Chemies is about twenty-five miles north-west of London, situate in a beautiful valley, between chalk hills, clothed with beech-wood.

UPUPA EPOPS.

A SPECIMEN was killed near Budle Bay in April last, and had been observed for two or three days before its capture. It proved to be a female, and is now in the collection of W. Broderick, Esq., Belford.

CONTRIBUTIONS TO ORNITHOLOGY.

1850.

Digitized

CONTRIBUTIONS

TO

ORNITHOLOGY

FOR

1850.

BY

SIR WILLIAM JARDINE, BART.

F.R.S.E., F.L.S., ETC., ETC.

EDINBURGH:
W. H. LIZARS, 3, ST. JAMES' SQUARE.
LONDON: REEVE, BENHAM & REEVE, KING WILLIAM STREET, STRAND.

1850.

Google

1850

CONTENTS.

Page
ORNITHOLOGY OF QUITO 1
ORNITHOLOGY OF THE BERMUDAS 5, 35, 67
OBSERVATIONS ON THE POSITION OF ARTAMUS SANGUINOLENTUS, TEMMINCK 15
SCOLOPAX BREHMI, KAUP 17

ILLUSTRATIONS OF FOREIGN OOLOGY—

Grus antigone 19, 153
Sypheotides bengalensis 40
Corvus culminatus 69
Corvus splendens ... ... ib.
Endynamys orientalis ... ... ib.
Lophophorus impeyanus 145
Purcrasia macrolopha 145
REMARKS ON THE STERNA INCA, LESSON... 32
MONOGRAPH OF THE FALCONIDAE, SYSTEMATICALLY ARRANGED BY DR. T. T. KAUP — *Continued from p.* 121 *of Contributions for* 1849 ... 51
NOTES ON THE OSTEOLOGY OF SCANSORES, BY T. C. EYTON, Esq., F.L.S., F.Z.S., &c. 73

MEETING OF THE BRITISH ASSOCIATION AT EDINBURGH, JULY 30, 1850.

Ornithology of Section D 85
On a Peculiar Structure in the Rectrices of Vidua paradisea (*Linn*), by H. E. STRICKLAND 88, 149
A Brief Account of the Researches in Natural History of John M'Gillivray, Esq., the Naturalist attached to H. M. Surveying Ship the Rattlesnake, on the North-Eastern Coasts of Australia, New Guinea, &c., by JOHN GOULD, F.R.S. 92
Some Observations on the Birds of the Faroe Islands, by J. WOLLEY, M.A. 106
THE DODO AND THE PRESUMED EXTINCT BIRDS OF MADAGASCAR AND THE MAURITIUS, &c. 123
ORNITHOLOGY OF THE COASTS AND ISLANDS OF WESTERN AFRICA, BY DR. HARTLAUB... 129

Page
ILLUSTRATIONS OF ORNITHOLOGY —
Oreotrochilus jamesonii, *Jardine* ... ... 27 - 1
Ianthia rufilata, *Hodgson* ... ... 28 - 2
Megalaima capistratus, *Eyton* ... ... 29 - 3
Pycnosphys grammiceps, *Strickland* ... ... 30 - 4
Monasa flavirostris, *Strickland* ... ... 47 - 5
Todirostrum chrysocrotaphum, *Strickland* ... ... 48 - 6
Euphonia bicolor, *Strickland* ... ... 48 - 6
Tachyphonus rufiventer, *Spix* ... ... 49 - 7
Calliste chrysonota, *Sclater*... ... ... 50 - 8
Trochilus allardi, *Bourcier* ... ... 81 - 9, 151
Synalaxis flammulatus, *Jardine* 82-10
Alcyone cyano-pectus, *de la Fresnaye* 82-11
Tarsiger chrysæus, *Hodgson* 119-13
Xanthornus prosthemelas, *Strickland* 120-14
Elænia linteata, *Strickland*... 121-15
Casarca leucoptera, *Blyth* 141-17
Menura alberti, *Gould* 142-18
Cæreba nitida, *Hartlaub* 147-21
Psaroides flammiceps, *Burton* 148-22

NOTICE.

Some of our Subscribers have expressed a wish to have the Plates numbered, to give facilities for quoting. We have no objections to comply with this wish, though we thought that the quotation of the description was sufficient, and our intention was, that the Plates of the "Illustrations" might be bound separately, as they accumulated sufficiently to form a moderately thick volume. A List of the Plates for 1848, 1849, and 1850 is now given, with the numbers which should accompany each. The Vignettes which have been occasionally introduced in the Letterpress are also included, but are placed in a separate Column. In Part I. for 1851, the Plates will be numbered, following those already published, which Subscribers are requested to number for themselves, in accordance with the following List:—

NUMBERS OF PLATES, &c.

	Plates.	Vignettes and Woodcuts.
Turdus xanthoschelus, *Jardine*, 1847	1	
Chrysoptilus kirkii, *Malherbe*, 1847	2	
Ortalida ruficauda, *Jardine*, 1848	3	
Cartilaginous end of sternum	...	4
Pericrocotus erythropygius, *Jerdon*	5	
Muscicapa hemileucura, *Hodgson*, 1848	6	
Heterura sylvana, *Hodgson*, 1848	7	
Penelope cristata, 1848 (Structure)	8	
Sternum (Structure)	...	9
Scops cristata, *Daudin*, var., 1848	10	
Tityra surinama, *Linnæus*, 1848	11	
Timalia leucotis, *Strickland*, 1848	12	
Drymoica mentalis, *Fraser*, 1849	13	
Drymoica erythroptera, *Jardine*, 1849	14	
Hirundo albigularis, *Strickland*, 1849	15	
Tanagra cana, 1849 (Oology)	16	
Momotus gularis, *De la Fresnaye*, 1849	17	
Holocnemis nævius, *Gmelin*, 1849	18	
Ploceus personatus, *Vieillot*, 1849	19	
Phrygilus unicolor, *De la Fresnaye*, 1849	20	
Tænioptera alpina, *Jardine*, 1849	21	
Menura, 1849 (Structure)	22	
Sternum (Structure)	...	23

	Plates.	Vignettes and Woodcuts.
Penelope — Menura, 1849 (Structure)	24	
Artamus, scientific position of, 1849 (Structure)	25	
Saxicola opistholeuca, *Strickland*, 1849	26	
Nectarinia natalensis, *Jardine*, 1849	27	
Pionus gulielmi, *Jardine*, 1849	28	
Erythaca flavolivacea, *Hodgson* Ianthia hyperythra, *Blyth*	29	
Pachycephala macrorhyncha, *Strickland*, 1849	30	
Brachypteryx poliogenis, 1849	31	
Pericrotus minutus, 1849	32	
Cyanocorax nanus, *Dubus*, 1849	33	
Phylloscopus trivirgatus Pycnosphys grammiceps } 1849...	34	
Trichostoma umbratile Trichostoma celebense, *Strickland* } 1849	35	
Goldana capistroides, 1849	36	
Pachycephala orpheus, *Jardine*, 1849	37	
Nasica bridgesii, *Eyton*, 1849	38	
Vulturidæ, Sterna of, 1849 (Structure)...	39	
Scolophax brehmi, *Kaup*, 1849 (Structure)	40	
Psaropholus, 1850 (Structure)	...	41
Grus antigone, 1850 (Oology)	42	
Oreotrochilus jamesonii, *Jardine*, 1850...	43	
Ianthia rufilata, *Blyth*, 1850	44	
Megalaima capistratus, *Eyton*, 1850	45	
Inca mysticalis, *Jardine*, 1850	...	46
Sypheotides bengalensis, 1850 (Oology)	...	47
Monasa flavirostris, *Strickland*, 1850	48	
Todirostrum chrysocrotaphum, *Strickland* Euphonia bicolor, *Strickland* } 1850	49	
Tachyphonus rufiventer, *Spix*, 1850	50	
Calliste chrysonota, *Sclater*, 1850	51	
Corvus culminatus Corvus splendens Endynamys orientalis } 1850 (Oology)	52	
Ramphastos erythrorhynchus (Structure)	53	
Psilopogon pyrolophus (Structure)	54	
Trochilus allardi, *Bourcier*, 1850	55	
Synalaxis flammulatus, *Jardine*, 1850	56	
Lophophorus impeyanus Purcrasia macrolopha } 1850 (Oology)	57	
Alcyone cyano-pectus, *De la Fresnaye*, 1850	58	
Vidua paradisea, 1850 (Structure)	59	
Ptilonopus strophium, 1850	...	60
Tarsiger chrysæus, *Hodgson*, 1850	61	
Xanthornus prosthemelas, *Strickland*, 1850	62	
Elænia linteata, *Strickland*, 1850	63	
Casarca leucoptera, *Blyth*, 1850	64	
Menura alberti, *Gould*, 1850	65	
Cæreba nitida, *Hartlaub* Paroides flammiceps, *Burton* } 1850	66	

ORNITHOLOGY OF QUITO.

Our long expected box from Professor Jameson has at last arrived, containing some very interesting things, which we shall endeavour to notice as early as we succeed in making them out.

The elevated regions in the vicinity of Quito, up to the very limit of the snow line, seem to abound in a few species of peculiar Humming Birds. We have previously mentioned

T. ensiferus, of which there are again specimens procured from the forests on the western side of Pichincha; it is stated as not uncommon, and to extract its food from the large bell shaped blossoms of *Datura sanguinea.* In one of these birds the tongue is entire, an instrument fully equalling the bill in length, deeply forked, and having the extremity of each fork dilated and finely fimbriated, the fimbriæ pointing backwards. We have also the female or young.

Oreotrochilus jamesonii ♀, which we believe is yet undescribed. It is dull coloured and without the gular patch; above, entirely of a brownish-green, the upper tail-covers showing green reflections; beneath, brownish-grey, palest on the throat, and having the feathers there and on the sides of the neck darkest in the centre. The tail is coloured nearly as bright as in the male; the base of the feathers, except the centre ones, white; the second and third from the outside tipped on their inner webs with white. The entire length is 4.5; bill to forehead, 8; wing, 2.7½. In another specimen, apparently a young male, subsequently received by post, the throat and fore part of the neck is nearly pure white, each feather spotted at the tip with dull green. A figure of these birds is given in our "Illustrations" accompanying the present Part.

We have, besides these, five additional species, not noticed before in the ornithology of Quito.

T. temminckii. — This is a very powerfully winged bird, coming almost near to some of the *Campylopteri* in the strength of the quills. A male varies slightly from Mr. Gould's figure, in having the blue on the upper surface of the wings confined to the secondaries; and on the under surface, to the secondaries and base of the quills. Our specimen, marked female, is deep rufous on the throat, breast and centre of the belly, and the two outer tail-feathers, are white along the centre. It may be a less mature state than Mr. Gould's ♀. This species "occurs in the wooded region of the Andes, between 10,000 and 12,000 feet elevation, extracting its food from the flowers of *Siphocampylus giganteus.*"

T. thallassinus, Swain. (1827). — *Ornismya* and *Ramphodon anais,* Less. 1831. — The tip of the maxilla has fine regular recurved teeth or serratures. — "A widely diffused species, and frequents the flowers of *Bernadesia spinosa.*"

T. (*Eriopus*) *luciani*, Bourc. — The specimens seem to be as named above by Bourcier; it seems however to be allied to several species. The above named author states, that it approaches *T. cupreoventris* of Fraser and *T. mosquera* of De Lattre; it also comes near to *T. glaucopoides* de la Fresnaye. — "It inhabits the western side of Pichincha at 10,000 to 12,000 feet elevation, and is very common."

T. allardi, Bourc. — The specimens agree with Bourcier's description of the bird we have named, except that he states, "*croupion roux-clair.*" (See our figure in next part.) Bourcier's specimens were from Santa Fé de Bogota. Professor Jameson states, that the birds sent are from "the western declivity of Pichincha. It feeds generally on the flowers of a blue lupine, and its habits certainly resemble more those of an insect than one of the feathered tribe."

T. cupripennis, Bourc. — Agrees generally with Bourcier's description of birds received from Colombia. In those from Quito the lower part of the back and rump show the bright changing colours, as well as the upper tail-covers which Bourcier mentions as alone possessing them. Of this form Mr. Gould makes his genus *Aglœactis*. Professor Jameson observes — "Inhabits the middle regions of Pichincha, extracting its food from the flowers of *Siphocampylus giganteus* and *Loranthus*. The species seems to be peculiar to the province of Patto and to the equator."

Since writing the above, we have received four specimens by post from the same regions, one a ♀, of a species common about the suburbs of Quito. The *T. nuna*, Less.

We may notice this again when other specimens have been received.

ORNITHOLOGY OF THE BERMUDAS.

WHEN printing the Ornithology of the Bermudas in our contributions for last year, we sent a proof sheet to Lieutenant Wedderburn, who was then on the eve of departure. The proof missed him, and only reached him after his arrival at the islands. It has just been again returned to us, accompanied with remarks by Mr. Hurdis who has attended to this branch of the natural history; and as these follow the order of our previous list, we at once print them as a supplement, with our thanks to the writer for his attention. Were similar lists and observations made out by residents in our various possessions, they would be of great use to ornithology.

Sialia wilsonii.—Common at all seasons of the year; breeding in April, May, and June. Is sometimes exceedingly abundant in the months of January and February: this large and temporary increase of numbers is doubtless to be ascribed to migration from the American coast. During the past summer, these beautiful birds were less numerous than during the preceding nine years.

Mimus carolinensis.—Common. Has established itself as a permanent resident.

Guiraca cardinalis.—Very abundant; rearing its young, and remaining throughout the year. It is not improbable that a few of this species occasionally arrive, like their progenitors, from the coast of America.

Vireo noveboracencis.—This little bird is very common, and appears to have thoroughly established its residence in these islands.

Corvus americanus.—A small flock of these crows frequents that portion of the islands between the Iron Light House and the town of Hamilton. They are supposed to have been introduced from Nova Scotia, in the year 1838, and are known to breed here.

Chamœpelia passerina.—Abundant throughout the year.

Gallinula galeata.—Supposed to be an autumnal migrant from the shores of America; is more or less common in some years than others, and breeds annually in these islands.

Ortyx virginianus.—Fifteen or twenty years ago this bird was known to breed in the Bermudas. None have been observed of late years, and it is now supposed to be extinct.

SUMMER RESIDENTS.

Phæton flavirostris.—The young of the Bermuda *Phæton* remains in the hole or cavity in which it has been nestled until capable of flight. Its plumage is then white, marked on the back and wings with transverse bracket-shaped bars of black or dark brown, the tail being without the elongated feathers of the adult bird. From this period the young disappear, and it is supposed they proceed with the parent birds to sea.

Sterna dougalii.—A summer visitant, breeding on the rocks near the entrance of Castle Harbour; arrives about the first of May, and departs in the month of September.

S. hirundo.—This is also a summer visitant, frequenting the same localities, and departing at the same season of the year; only two specimens shot by me, 17th June, 1848.

AUTUMNAL AND WINTER VISITANTS.

Pandion haliætus.—Occasionally met with from October to June.

Falco peregrinus.—*F. anatum* of Buonaparte. One specimen shot by Dr. Cole, 20th Regiment, in October, 1846. Another was killed in the town of Hamilton on the 1st February last.

Falco columbarius.—Mr. Tristram's observations are correct.

Circus cyaneus.—Occasionally seen during the autumn migration.

Surnia nyctea.—Two specimens were shot at Boss' Cove, in the autumn of 1843, by Lieut. Fayrer, of H.M. hulk "Tenedos."

Otus americanus.—Three examples were shot at Gibb's Hill, during the winter of 1846 and 1847, and another in the beginning of November, 1849.

Otus brachyotus.—I have examined but one specimen of this species, which was shot by Dr. Cole, 20th Regiment, in December, 1846.

Scotophilus acadica.—The specimen here mentioned is the only one that has been observed, and was captured alive at Ireland Island, on the 12th January, 1849. (Tengmalm's Owl was not *S. acadica,* but a genuine Tengmalm. It flew on board the schooner "Robert" on the 14th November, 1847. This vessel was then on her voyage from Halifax to these islands: her latitude 41° 10′, longitude 63° 40′; the wind blowing very fresh at the time from the south west. I examined this Owl soon after it arrived here. It was then alive, but having been fed at sea with pieces of salt pork soon died.)

Chordeiles virginianus.—Many of these birds visit us for a few days in the months of April and October, going to and returning from the north. In 1849 they were unusually common during the spring migration.

Hirundo rufa.—Occasionally a transient visitor in the months of April and May, though more commonly met with in September. This species was very numerous in the great flight of Swallows which visited these shores in September, 1849.

H. riparia.—Two or three specimens were shot in September, 1846. Two others were observed near Hamilton, on the 8th August, 1847.

Ceryle alcyon.—Visits the Bermudas regularly during the autumnal migration, arriving in the latter half of September. A few remain with us during the winter months; these take their departure about April, and never leave a straggler behind them. Of course they do not breed here.

Sylvicola coronata.—An autumnal visitant, of which three or four specimens have been obtained. My earliest date is October 30, 1846, and latest, the 24th January, 1850.

S. petechia.—Two specimens only have been obtained, one on the 17th December, 1847, the other about the 3d November, 1848, and both by Lieut. Wedderburn.

S. discolor.—The only specimen I have seen, was shot by Lieut. Wedderburn, at Ireland Island, 3d October, 1848.

Sëiurus noveboracensis.—A regular autumnal visitor, a few of which remain with us during the winter months. They are seldom seen, though often heard in the thick mangrove swamps.

Linaria minor.—Has been occasionally met with from October to February. Rare.

Dolichonyx orizivorus.—An autumn visitor which appears about the middle of October, and invariably in winter plumage. In some years this bird is uncommon, in others the reverse. Is generally found in small flocks.

Plectrophanes nivalis.—First obtained in February, 1848, subsequent to which several examples have been procured during the winter months. On the 17th November last I examined a specimen in summer plumage, shot by Mr. Darrell.

Lanius ludovicus.—Occasionally found during the autumn and winter months. Was first observed by Dr. Cole, 20th Regiment, in October, 1846.

Bombycilla americana.—A flock of about thirty, seen by Lieut. Wedderburn in October, 1847, from which three specimens were obtained. In December following he killed four others. In December, 1849, I shot two specimens from a flock of about twelve. In no other instance am I aware of the occurrence of this bird in the Bermudas.

Picus varius.—Accidental and rare. May occasionally remain during the winter months. Has not been observed since March, 1849.

Coccyzus americanus.—First observed by Dr. Cole, 20th Regiment, in 1844. In 1847 a specimen was captured at Ireland Island in October; and on the same date, in 1848, a similar capture was made in the same place; this occurred on the 15th or 16th. On the 9th October, 1849, these islands were visited by a very extraordinary flight of many thousands of these birds, then on their southern migration—the greater number of these departed on the following day, the remainder followed soon afterwards.

Ectopistes carolinensis.—In the ornithological list for 1849, prepared by myself, this bird has been transferred to the doubtful squad, for reasons there given.

Squatarola helvetica.—Rarely met with, though the young are supposed often to mingle with *C. virginiacus*, in their southern migration in the month of September. A fine adult specimen was shot by Lieut. Wedderburn, on the 5th September, 1848.

Charadricus virginiaus.—In the month of September and the early portion of October, this species passes over the Bermudas in flocks, some of which are very large. They fly in a south or south-easterly direction, and seldom alight unless from stress of weather. They are not observed here on their return north in the spring.

Ægialites vociferus.—Occasionally met with during the winter months. Shot a specimen of this bird on the 12th November, 1849, which may be considered early for this species.

Æ. semipalmatus.—Visits these islands in August and September. Not uncommon.

Æ. melodus.—A single example of this species, shot by Lieut. Wedderburn on the 5th September, 1848.

Calidris arenaria.—A winter visitant, frequenting the sandy bays of the coast; has been shot early in September. Uncommon.

Strepsilas interpres.—Arrives from the north as early as the commencement of August, though more commonly in September. Is one of the most regular and common of our autumnal and winter visitants. Is generally seen in small flocks.

Tringa pectoralis.—Not uncommon in August, September, and October. On the 9th October last, this species made its appearance in numerous flocks during tempestuous weather.

T. schintzii.—Visits these islands during the autumnal migration. A few specimens only have been met with.

T. pusilla.—Frequently found associating with *T. semipalmata.*

T. maritima.—In the absence of positive proof, this *Tringa* has been transferred to the list of doubtful birds.

T. semipalmata.—Visits Bermuda as early as the beginning of August, and is occasionally seen in small flocks from that period to the month of November.

Phalaropus lobatus.—A pair of these birds were obtained in the spring of 1848. The male was found dead, floating in Riddle's Bay, on the 18th March, and had probably struck the lantern of the Iron Light House (which is immediately above) during its nocturnal flight from the southward. The female, in ruddy plumage, was found *swimming* at the head of Hamilton Water, where it was killed on the 22d March, by a blow from a stick.

Totanus macularius.—The earliest of our autumnal migrants from the north, appearing in the middle of July, and remaining to the end of September and occasionally later. A few were observed in April, 1849. Does not breed in Bermuda.

T. solitarius.—More or less common every year, from August to November.

T. flavipes.—One of our earliest visitors from the north, appearing with wonderful regularity on or about the 1st August, *i. e.*, in the heat of our summer. Is last seen about the end of September. Common.

T. vociferus. — This species makes its appearance soon after the preceding, and is occasionally met with to the 10th November. Is more or less common in some seasons.

Catatrophorus semipalmatus.—The only specimen I have seen was shot by Lieut. Wedderburn on the 4th July, 1848.

Himantopus nigricollis. — I am not aware that this bird has been observed in these islands. Of *Tringa himantopus* of Audubon, one specimen was obtained by you on the 2d August, 1848, which appears in Sir William Jardine's list to be mistaken for *H. nigricollis.**

Scolopax wilsonii.—More or less common during the autumnal migration, appearing at the commencement or middle of October. A few stragglers are occasionally found so late as the month of January. In May, 1847, several couple were killed on their return or northern flight. On the 13th October last, unusual numbers of these birds suddenly appeared in Pembroke Marsh, and afforded capital shooting for three or four days, when they took their departure. On the 6th November, 1848, I examined a *Scolopax*, shot by Lieut. Wedderburn, which had every appearance of belonging to this species, though strange to say, it had eighteen feathers in its tail. Another, also shot by him four days previously, had an imperfect tail of seventeen feathers.

Macrorhamphus griseus.—An autumnal visitor, of which two specimens only have been obtained. One of these on the 1st October, 1847, the other on the 21st August, 1848.

Rusticola americana. — Accidental. A single specimen having been shot in a marsh near Hamilton, in October, 1842.

Numenius borealis.—This bird is occasionally shot on the shores of Bermuda during the autumn migration.

---

* Mr. Hurdis is most probably right.—W. J.

Numenius hudsonicus.—This wary bird appears early in the middle of August. Uncommon.

Fulica americana.—A few specimens have been shot in November and December, also one on the 28th May, 1847.

Ortygometra carolinus.—This bird is a regular visitant, and sometimes makes its appearance from the American coast in the beginning of September, though in general somewhat later. In October, 1849, hundreds of this species appeared in the marshes simultaneously, with a considerable flight of *Scolopax wilsonii.* It is occasionally met with during the winter. On the 26th April, 1849, I shot a specimen near Warwick Pond.

Ortygometra noveboracencis.—The two specimens were shot by Lieut. Wedderburn in Pembroke Marsh, in October, 1847, and are the only ones I have seen.

O. jamaicensis.—One specimen only has been obtained, which was shot by Lieut. Wedderburn on the 5th September, 1848.

Nycticorax gardeni.—An autumnal migrant, occasionally found from September to March. All the specimens which have been obtained were in the spotted plumage of the young. In Sir William's mention of this bird, a little confusion appears to have arisen from mistaking Mr. Tristram's account of *Ardea herodias* as applicable to the present species.

Botaurus lentiginosus.—More or less common from October to December, and occasionally met with till March.

Ardeola exilis.—One example only of this species has come under my observation, which was killed by Lieut. Wedderburn, on the 23d October, 1847.

A. virescens.—This may be considered a rare bird in most seasons; it was however abundant in the month of April, 1849, and again during the autumnal migration of that year, from the latter part of September to the end of October.

A. leuce.—A pair of these Egrets were shot at Hungry Bay in 1840. No specimens have been since obtained, though instances are known of its having been seen here. Of course they do not remain during the winter, as stated by our worthy friend Tristram.

A. herodias.—An autumnal visitor, a few of which remain the whole winter, indeed throughout the year. In 1846 the nest of this bird, containing two eggs, was found in the mangrove trees of

Hungry Bay. It was a Heron of this species which Mr. Tristram kept in his garden, and which was seen upon one occasion to capture a *Columba passerina*, and swallow it entire.

Anser hyperboreus.—Two of these birds, in the plumage of the young or "Blue-winged Goose," were shot in Riddle's Bay, on the 19th October, 1848.

A. canadensis.—The occurrence of this species is considered "doubtful."

Anas obscura.—Occasionally met with during the winter months. Two specimens were shot in December, 1849.

A. discors.—An occasional visitor during the autumn and winter months. About the 10th October, 1849, a few flocks of this species appeared in the marshes near Hamilton, from which several birds were killed.

A. carolinensis.—An autumnal visitant, more or less common in some years.

Dendronessa sponsa.—The only example observed here was a female, with a conspicuous white patch surrounding the eye. It was shot by Dr. Cole, 20th Regiment, on the 16th December, 1846.

Rynchapsis clypeata.—I have seen but one specimen of this duck, which was killed in December, 1844.

Dafila acuta.—Is occasionally met with from October to December.

Fuligula marila.—This is the larger Scaup of Europe and America, and is an occasional visitant to these islands.

F. mariloides.—The occurrence of this species requires confirmation, I have therefore placed it among the doubtful birds in the list of 1849.

Clangula albeola.—A winter visitant, of which two or three specimens only have been obtained.

Mergus merganser.—Transferred to the doubtful portion of the list of 1849, for reasons there given.

Phalacracorax dilophus.—An accidental winter visitant. Uncommon.

Plotus anhinga.—This is an error in the list of 1848; our specimen proving to be *Sula fusca* of Audubon. It was captured alive in October, 1847.

Tachypetes aquila.—Two specimens of this bird were shot by Lieut. Wedderburn, at Ireland Island, in September, 1848.

Pelicanus fuscus.—In the absence of specimens, this bird is transferred to the doubtfuls in the list of 1849.

Podiceps cornutus.—One specimen, considered to belong to this species, was killed by Dr. Cole, 20th Regiment, in November, 1846. It is now in the possession of the Rev. T. B. Tristram. A careful description of the same is wanted.

P. carolinensis.—Two examples were shot in October, 1849.

Larus occidentalis.—A winter visitant to the shores of these islands, several examples of which were shot in 1847, and one in November last.

L. zonorhynchus.—Rare. One specimen obtained in January, 1849.

L. argentatus.—A few of these Gulls were shot in February and March, 1848.

L. tridactylus.—An occasional winter visitant. In March, 1849, several of this species appeared for some days in Hamilton Harbour.

Xema atricilla.—See list of doubtfuls for 1849.

X. sabinii.—A single specimen killed by Captain Drummond, 42d R.H., date not recorded by me.

Sterna fuliginosa.—A fine specimen of this Tern was shot by Dr. Cole, 20th Regiment, in October, 1846.

Thalassidroma wilsonii.—Often seen by fishermen and others about the outer reefs, but has not been observed to approach the shores of these islands. Does not breed on any part of the coast.

VERNAL VISITANTS.

Myiodoctes mitratus.—A male specimen, shot at Ireland Island, 30th March, 1847.

Milvulus tyrannus.—Two examples have been obtained; one in March, 1847, the other in April, 1849.

Nycticorax cayenensis.—Two specimens have come under my observation; one in April, 1848, the other in September, 1849.

ACCIDENTAL STRAGGLERS FROM EASTERN HEMISPHERE.

Saxicola œnanthe.—This European bird was shot near the Iron Light House, on the 5th October, 1846, by Lieutenant Wood, of the 20th Regiment, by whom it was presented to me. The tail-feathers only were preserved, and these I forwarded through the Rev. T. B. Tristram to Mr. Yarrell, in August, 1847, who has expressed himself satisfied with the identity of the same.

Crex pratensis.—This specimen was in the plumage of the young, and was shot in Pembroke Marsh by Lieut. Wedderburn, on the 25th October, 1847.

Scolopax gallinago.—I have nothing to add to Sir William's note under this head.

ORNITHOLOGY OF THE BERMUDAS.

The last mail from Bermuda brought us a note from Lieutenant Wedderburn, enclosing, from Mr. Hurdis, a list of additions to the ornithology of these islands during 1849 and the commencement of the present year. It will be perceived, that the great migration is from the northern continent, and the character essentially North American; and we have no doubt, that such observers as our correspondent, Captain Drummond and Mr. Hurdis, will soon add to the list; even before the note is sent off, *Turdus migratorius* has been shot.

Chætura pelasgia.—A single specimen was shot on the 13th September, 1849. On the 22d of the same month, an immense flight of *Hirundinidæ* suddenly appeared on the southern shore of these islands, extending from Ireland Island to St. George's; they remained for one day only, leaving however many stragglers, among which, on the 24th, I observed several of the present species.

H. purpurea.—This species was numerous in the flight above mentioned, and had not been observed previous to that visitation.

H. bicolor.—Very abundant in the great flight of *Hirundinidæ*, 1849, though previously unobserved.

Sylvicola pinus.—Many of these birds were observed for the first time on the 27th September, 1849; were last seen early in October.

S. americana.—A single specimen was shot at Ireland Island on the 21st April, 1849, by the Rev. T. B. Tristram, in whose possession it remains.

Mniotilta varia.—An example of this species was shot by Captain Drummond, 42d. R.H., on or about the 9th October last.

Turdus mustelinus.—Several specimens of this thrush were obtained in the neighbourhood of St. George's, about the 9th October, 1849; and one in the vicinity of this town (Hamilton) on the 13th of the same month.

Turdus olivaceus (of Giraud; Birds of Long Island; *Merula olivacea* of the New York Fauna). — Two examples only have been obtained, both of which were shot about the same period as the preceding. The term "*solitarius*," in the List of 1849, is an error.

Anthus ludovicianus.— A flock of four was observed near Hamilton, in November, 1848, from which one specimen was killed. This would appear to be an omission in Sir William's list for that year.

Alauda alpestris.—Two examples shot by Captain Drummond, 42d R.H., on the 25th October, 1849.

Emberiza graminea.— An accidental visitor, of which one specimen was obtained on the 25th October, 1849.

Ammodramus palustris.— A single example, shot in Pembroke Marsh, by Lieutenant M'Leod, 42d R.H., on the 3d December, 1849.

Coccoborus ludovicianus.— A female specimen, killed by Captain Drummond, 42d R.H., on the 9th October, 1849.

Gallinula martinica.— A few of these elegant *Gallinules* were observed about the breakwater, at Ireland Island, in April, 1849, one of which was captured alive. This specimen is now in the collection of the Rev. H. B. Tristram, of Castle Eden, near Durham.

Ardea cærulea.—Two of this species only have been obtained, one in April, 1849, in the plumage of the young, the other an adult specimen, in October following.

Ardea candidissima.—Several of these beautiful Egrets visited Bermuda in September, 1849, previous to which they had not been observed. Some fine specimens were obtained.

Fuligula perspicillata.—A solitary example of this sea-duck was killed in January, 1849.

Mergus cucullatus. — A female specimen of this species was captured off Ireland Island, by the crew of a boat belonging to H.M.S.S. "Scourge," on the 10th January, 1849.

Larus bonapartii. — One of this species of gull was shot by Mr. Wedderburn, on the 27th January, 1849.

Puffinus obscurus.—A summer visitant, known to breed on the rocks near the entrance of Castle Harbour. Two specimens, with the egg and young, were obtained by Messrs. Orde and M'Leod, of the 42d R.H., in May last. Supposed to be identical with the "Cohow," so fabulously described in Smith's account of these islands, 1629.

This brings me to the termination of the List for 1849. One new bird has subsequently been added, viz.—

Loxia curvirostra.—A living specimen of which was captured at Ireland Island in January last, and is now in your collection. (Mr. Wedderburn's.)

The occurrence of several of the birds mentioned in the doubtful List of 1849 being considered unquestionable, I will close my ornithological remarks with a few words concerning them.

Falco sparverius.—A very small hawk, supposed to belong to this species, boldly attacked some domestic pigeons under my window for two or three mornings in succession. (More probably *F. columbarius*—W.J.)

Surnia funerea.—Captain Drummond recently observed this bird on the wing within a few yards of him.

Trochilus colubris.—Said to have visited the eastern portion of these islands in considerable numbers, twenty or five-and-twenty years ago. I have not succeeded in obtaining any authentic account of this occurrence.

Ectopistes migratoria.—Supposed to have been observed by Dr. Cole, 20th Regiment, 1846.

E. carolinensis.—A pair of doves, which from the description I received of them, were probably of this species, were observed at Somerset, in October, 1847.

Tringa maritima.—A "Black Sandpiper," supposed to be this species, was seen by Mr. Wedderburn in July, 1848.

Ibis falcinellus.—This unmistakeable bird was observed by myself in the marshes near Warwick Church, on the 28th April, 1849.

Phœnicopterus ruber.—This species, in the greyish-white plumage of the first year, was seen by me at Hungry Bay, on the 24th September, 1849.

Anser canadensis.—A single goose of this species is reputed to have been shot, a few years ago, in these islands. The occurrence requires confirmation.

Mergus merganser.—Said to have been killed off Ireland Island in the winter of 1845.

Pelicanus fuscus.—Has been shot at Hungry Bay within the memory of persons now resident upon the spot.

Larus atricilla.—Observed by Mr. Wedderburn, in the Great Sound, in 1847.

ORNITHOLOGY OF THE BERMUDAS.

LETTERS from Lieutenant Wedderburn, announce the addition of several birds to the Ornithology of the Bermudas, and we have no doubt, that were such zealous observers to continue stationed there, the list might be still further increased. We hope, for the sake of Ornithology, they will soon have a wider field of observation.

Lanius borealis — *Tyrannulus dominicencis* — *Turdus migratinus*, several specimens—*Zonotrichia savanna*—*Ectopistes carolinensis*—*Pyranga rubra* — *P. æstiva* — *Pelicanus fuscus*. "A great many yellow bellied Woodpeckers have been killed; and on several occasions, along with Captain Drummond, a Wheatear has been observed at St. George's."

OBSERVATIONS

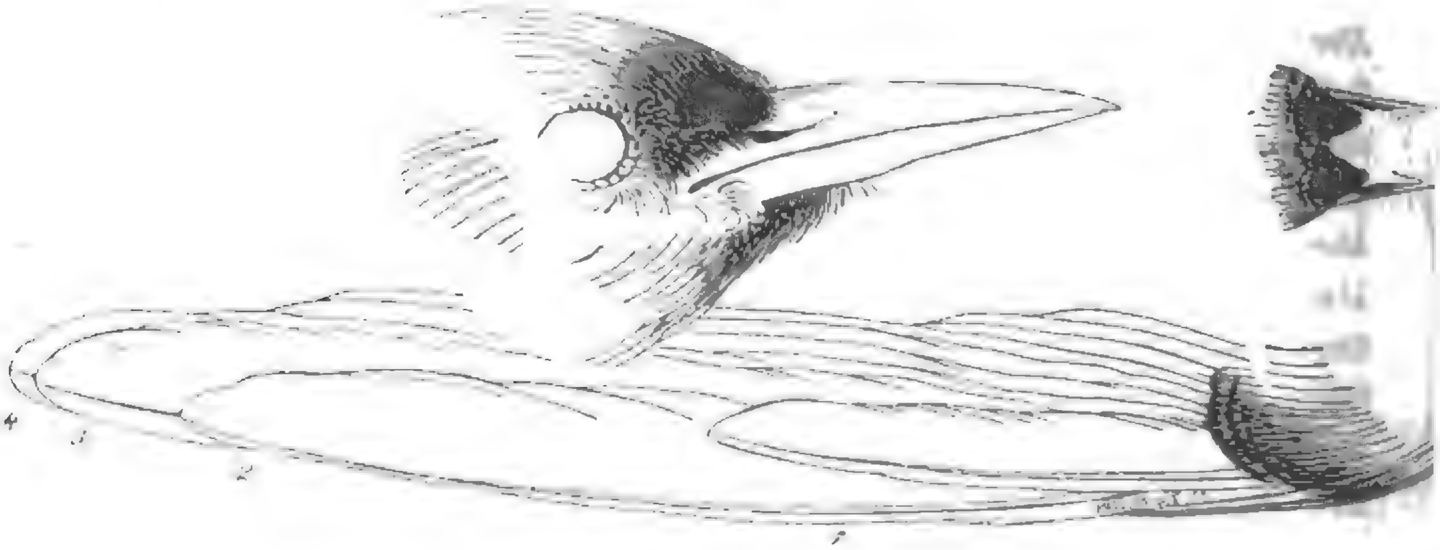
ON THE

POSITION OF *OCYPTERUS SANGUINOLENTUS*, TEMMINCK.

By the attention of Mr. Wilson, whose collection has already supplied us with many materials, we have been enabled to examine the yet rare bird, *Ocypterus sanguinolentus* of Temminck, the type of Mr. Swainson's genus *Analcipus*, by whom it was placed among the *Laniadæ*, and in the division containing the Drongo Shrikes or *Dicrurinæ*. The first glance assured us, that it had no connection with *Ocypterus* (*Artamus*), none with *Dicrurus* or the Shrikes, and that its proper position was, as arranged by Mr. Gray, with the *Oriolinæ*, and with our genus *Psaropholus*. The structure of the wings is the same as with the Orioles; but that of the bill in this bird and *P. trailii* differs in the nostrils being at once pierced into the bill, wanting the covering membrane, or at least in its being so strong as to appear a part of the bill itself, and resembling the cleft nostril of the greater part of the *Icterine* group. The colouring is also remarkable, black, with an indication of brilliant colour on the centre of the belly, and a very small trace on the wing, the feathers on the bright spot of the former possessing the same silky texture with those of *Psaropholus*. We give the woodcut from the "Illustrations of Ornithology" illustrating that genus; and it will be extremely difficult to draw separate generic characters for these two birds. When we first saw *Psaropholus* we considered it generically distinct from the typical Orioles, the ruling colours of which are yellow, greenish, or olive and black, never crimson. The two birds in question exhibit rich purplish-brown and crimson, contrasted with black; and from the structure of the bill and entire appearance, we consider that they mark very distinctly among the Orioles the representation of the *Icterine* form in the Old World. Of the habits of *Psaropholus* we have yet no knowledge, but *Analcipus sanguinolentus* is almost entirely fructivorous. In a very interesting account of an expedition to the interior of the north-west of Sumatra by S. Muller, we have the following note of its habits:—"This bird shows as great a difference in its habits from the true *Ocypteri* as it does in its whole appearance and formation. It is a real inhabitant of the wood, and resembles most in its habits some species of the genus *Oriolus* and *Paradisea*. Its food consists almost exclusively of wild fruits, especially figs; some remains of caterpillars and other insects are very rarely found in its stomach. There are sufficient grounds for making this a new genus, for which perhaps the name of *Philocarpus* would not be unsuitable."*

---

* Tigdschrift voor Natuurlijke geschiedenis en Physiologie. Van der Hœven, 1835, p. 331.



PSAROPHOLUS.

SCOLOPAX BREHMI, Kaup.

In our concluding part for 1849, we made some observations on *Scolopax brehmi* of Kaup, and we are glad to say, that these have already been attended with advantage, and have directed attention to the subject. There is much more variation in the plumage and different states of our Snipes than is at first observed from the very cursory examination which they receive when shot, even by ornithologists. The tail, as we before remarked, has been taken as a part affording distinctive characters; but the breadth of the feathers, and their colours, will be found to present much variety, white, black, and sienna, in their turn, prevailing in different proportions.

We do not unfrequently find the outer tail-feathers longer than the others, accompanied by minute variations in the plumage; such as more white at the tips of the secondaries, and in the inner webs of these feathers being more distinctly mottled, affording a very favourite feather for the angler, and which has been long observed and sought after, although with no suspicion of that arrangement belonging to any distinct race or species. In all these, however, we have never counted more than fourteen feathers in the tail.

We sent impressions of our plate of the tails of *S. gallinago* and *brehmi* to several correspondents; and C. A. Gordon, Esq., M. D., now in Ireland with his regiment (57th), a few days since, sent us a Snipe, shot in the vicinity of Enniskillen, bearing all the characters of *S. brehmi*, having *sixteen* feathers in the tail, with that on the outside slightly lengthened beyond the others. On comparing this bird with that having fourteen feathers, and which we gave as *S. brehmi*, there is very little difference; the bills are equal in length, and the general tone of the plumage is similar. On comparing them again with *S. gallinago*, shot at Jardine Hall, we find the bill shorter, $\dot{2}.\ddot{6}$; tarsus, $\dot{1}.\ddot{2}$; naked part above the joint, $\ddot{4}\frac{1}{2}$; the pale parts of the upper plumage more rufous;

the stripe on the centre of the head more narrow; the tail with a much less proportion of black. These may be all only variations occurring among many, and they are only noticed now as the distinctions presented in the birds before us.

ILLUSTRATIONS OF FOREIGN OOLOGY.

GRUS ANTIGONE.

OUR active correspondent, Mr. Blyth, has favoured us with two drawings of the egg of this noble Crane, together with the following observations on the Cranes of India:—

"The eggs were laid by a tame bird that has the range of a garden, and were unimpregnated. They do not accord with Captain Tickell's notice of the egg of *Grus antigone*, in *Journ. As. Soc. Beng.* xvii. 303; and we doubt that those described as frequently brought to him in Singbhoom and also in Manbhoom, where they are tolerably common—('colour pure white, not quite so pure as in the domestic fowl, without spot or mark of any kind;' 'length about 3½ by 2⅝ inches,' and 'generally two in the nest, which is a raised heap of rushes, &c., placed in heavy grass jungle, in retired places, generally at the foot of hills, covered with forests, July,')—were the eggs of *Grus antigone*, upon the evidence of the two undoubted specimens here figured, although these were produced by an unimpregnated bird in confinement. At the same time, it is difficult to guess what the eggs described by Captain Tickell could have been. All the Stork tribe build on trees and other elevations, *Mycteria*, as we are informed, upon the highest trees, while the *Anatidæ* lay numerous eggs; besides, that no species that breeds in India could lay so large an egg as that described by Captain Tickell. We can only suggest that they may be those of the migratory or lesser Indian Adjutant, *Leptophilos javanicus (Ciconia capillata* of Temminck); but even these would probably be laid in nests, placed high upon the largest trees, in conformity with the nidificatory habits of the group. However, the *Sáras* or *Surhuns (Grus antigone)* does breed in India, unlike the *Kurlung* or

'Coolen' *(Grus cinerea)*, and the *Kakarra*, *Kurrounch*, or *Kurconcha* (*Gr. virgo)*, which are there known as winter visitants only, both being far more abundant than the native Sáras. The beautiful White Crane *(Gr. leucogeranos)*, though found in Affghanistan, does not appear to reach India in its migrations, and our correspondent doubts the distinctness of *Gr. torquatus*, Vieillot, from *Gr. antigone.* At least he states his belief that there are but three species of Crane in India proper, and of these the *Kakarra* (which erroneously is termed 'Coolen' by most sportsmen) or Demoiselle, does not appear to visit Lower Bengal, though common in parts of the Peninsula and in Western India, and as we are also informed, upon the *churro* or alluvial islands, high up the Brahmaputra, occurring there in flocks of hundreds, mingled with *Gr. cinerea*, whereas *Gr. antigone* is observed in pairs, or small flocks of six or eight only, and as we understand, always apart from the other species. All three are numerous in some districts during the cold season, as in Behary, where Buchanan Hamilton states them to be the most destructive birds to the crops.* They do not however feed solely on grain, but will pick up Quails, and probably any other small living animal that comes within their reach, as do the Bustards likewise. Mr. Elliot mentions finding a quail's egg entire in the stomach of the great Indian Bustard. The gizzard of the Cranes is powerfully muscular; and the general anatomy allies them rather to the Snipe and Plover grand series (the *Pressirostres* and *Longirostres* of Cuvier), than to the *Ardeadæ* (or *Cultrirostres* of Cuvier); and the affinity is borne out by the egg, which in all the veritable *Ardeadæ* we know of is spotless,† dull white, buff, or pale blue; and also by the activity of the chick at an early age, when the young of the *Ardeadæ* are helpless. Our friend informs us, that he has known the Sáras to be bred in captivity, and that he has seen a captured chick, when very young, which would follow any one for food, and was reared with great ease. Till nearly grown, the head of this young Sáras was fully feathered, the same as in young turkeys, guinea fowls, and vultures, and we believe all other bareheaded birds; and the distinction of the subdivision *Anthropoides*, rests only on the permanently feathered head and greater elongation of the tertiary plumes, characters of the most trivial import, and as might be supposed, exhibiting gradations from species to species, as shown by the intermediate *Gr. carunculata*, figured by Messrs. G. R. Gray and Mitchell. *Balearica* is a much better division, and in this the trachea does not enter a cavity in the sternal ridge, as in the other Cranes in common with the Trumpeter Swans.

---

* Montgomery Martin's "History of Eastern India," i. 226.

† The egg of the Spoonbill is spotted.—W. J.

" These elegant birds have, again, a carriage widely different from that of any *Ardeadæ;* and they are particularly remarkable for their manner of *dancing*, as it may well be termed, with wings extended, several thus playing together with amusing activity. Hence the names *Demoiselle* and *Virgo* applied to the small *Kakarra*, as it is termed in India. They are easily tamed, and their handsome appearance and graceful movements render them favourites wherever kept, ranging at large in parks or pleasure-grounds, with wings cut, however, to prevent their leaving in the breeding season, after which they would very probably return if not elsewhere captured; but such escaped individuals descend at once to the loud trumpet-call of a tame one from below, when they are again caught and deprived of the means of flight. In general, they are very gentle creatures, but not when they have young to protect, or the male is getting into season, on which occasions the large Indian Sáras is rather a formidable foe, as fierce as dauntless; but it is not difficult to catch him suddenly by the neck, being at the same time wary of his claws; he cannot then be suffered to range about as usual, as he comes boldly up and attacks every one. The adults keep in pairs at all seasons, even though the pairs should associate into flocks; and our informant tells us, that he now knows of a male *Grus cinerea*, paired with a female *G. antigone*, in a paddock where several of both species are kept, both being perfectly tame and gentle, though, if the lady Sáras be molested in any way, her under-sized beau comes up at once to make a show of attack, prancing around the intruder with expanded wings. We look with interest to know if any result will follow this union. The two species have much the same loud trumpet cries, but which are nevertheless very distinguishable; and the sound from on high is familiar to most residents in India, as the flocks pass over at a great altitude, flying like wild geese in a line, or more generally an open wedge.

" In some parts of that country the Sáras is protected by the inhabitants. Thus a writer, in the Calcutta Sporting Review, in the Narrative of his Journey through Bundlekhund, remarks:—'It need hardly be observed, that sportsmen have great opportunities of picking up information by familiar intercourse with the people. There is always something interesting, not to say absolutely necessary, to learn regarding their superstitious veneration for particular animals and birds. Everybody has heard of the murder of two officers at Muttra, because they happened not to know that the Monkeys they shot were held sacred. I remember when a Mahommedan servant of mine shot a pea-fowl near Gwalior, which circumstance led to about a hundred villagers sallying out with bludgeons to assail all my party; and nothing could have saved some of our heads, but for the thorough knowledge of the language of my companion, who assured the enraged people that the man should be severely punished, and he kept his word. There are, however, birds, which if not actually sacred like the pea-fowl, are nevertheless regarded by Hindoos with such affection, that to shoot them is offensive. Among these is the Sáras, which not coming within the category of game, ought not to be shot.'

"According to Mr. Jerdon, the Sáras is migratory in South India, appearing in the Peninsula only in the cold weather; but we can scarcely doubt that it breeds in parts of Central India, where Captain Tickell believed that he obtained its eggs in July; for he could hardly be mistaken as to this conspicuous and sonorous great bird then occurring in the vicinity. In the Rajmahl and Monghyr Hill district of Bengal many are bred; and a friend, familiar with the ornithology of India, informs us, that he has been pointed out a *j'heel* (or marshy lake), higher up the Ganges, in which Sáras bred annually. This bird also inhabits the Burmese countries, where it bears the name of *Gyo-gya*. The tame pair before alluded to as having bred repeatedly in confinement, had the range of a large native garden, containing inundated patches of paddy or rice; and to one of these they always resorted to form their nest, which was commenced under water, and raised to some height above it. Two eggs were generally laid; and the birds were as little disturbed as possible when building and incubating—the male being then very fierce and combative; but as soon as the young were hatched, they were caught and more closely confined with their parents, who reared them in a large cage apartment. These details were obtained from the native gentleman who owned them, and may, we believe, be fully trusted; but with regard to the colour of the eggs, he had never looked at them."

Mr. Jerdon quotes from Mr. Elliot's notes the following excellent observations, chiefly made in Guzret, the Sáras being but a rare visitant to the South Mahratta country—the chief scene of Mr. Elliot's printed zoological labours:—"The Sáras lives always in pairs, though several pairs are frequently seen together, and occasionally though rarely a stray bird, either a young one, or one that had lost its mate, with another pair. Every morning they are seen at sunrise winging their way to the cultivated fields, to feed upon grain, their sole (chief) aliment; and about eleven or twelve o'clock they make their way to the nearest water to drink, always preferring the sandy beds of rivers, where they are seen in the greatest numbers, but not disdaining to resort to tanks should no stream be near. There they remain all day, and at evening again betake themselves to the fields, returning to pass the night by the waterside. When alarmed, and when on the wing in their morning flights, they utter a fine clear trumpet-like note."

The *Karlang* (whence "Coolen") or European Crane seems also to be a rare bird in the Peninsula of India in comparison with Upper India generally. There it is seen in great flocks, mingled with the *Kakarra* or Demoiselle as before described, but Mr. Jerdon states:—"This well-known Crane is found in South India in the cold season only, living in pairs or small parties of six, eight, or more. Has similar habits and food with the Sáras Crane. On one occasion I found the flowers of the *Carthamus tinctorius* to be the only food partaken of. This was late in March, when most of the grains are cut. The *Koolung* is often seen in company with the *Kurkurrah.*"

"The last," remarks the same naturalist, "is found all over the peninsula during the cold weather, and in much greater numbers than either of the other two species. Like these it is most abundant in the neighbourhood of the larger rivers, and has similar habits and food. Mr. Elliot, in his Notes, says:—'Flies in vast flocks, from fifty to one hundred, and even five hundred, with great regularity of arrangement, in a long line, a few of the leading ones disposing themselves in another line at an angle, varying from a right to an acute one with it. This is when they are in progress.

At other times, as when disturbed during the heat of the day, they may be seen circling round at a great height, but still a regular order of lines may be distinguished. Their favourite food is the *Cicer arietum*. They never go to tanks to drink, but always to rivers.'" "When this bird," adds Mr. Jerdon, "is struck by a *Bhyree (Falco peregrinus)*, its mate generally comes to its assistance. The *Bhyree* always strikes it on the back and wings, to avoid being wounded by the sharp inner claw, with which, if struck on the head, it generally manages to inflict severe wounds on the breast of the Falcon. The inner claw of all these cranes is much hooked, and exceedingly sharp, and the bird always, in self-defence, strikes with its claw, and never with its bill."

By the sportsmen of the Bengal Presidency, the Demoiselle is always known as the "Coolen," a term which is sometimes extended likewise to *Grus cinerea*. It is in great estimation for the table. We will conclude by citing a couple of sportsmen's notices of it, as an object of quest for dinner, not objecting to a little repetition if from the pen of another original observer :—

"The *Coolen*," says a writer in the Bengal Sporting Magazine (for Feb. 1837), "are almost always to be seen in large flights (similar to geese), frequenting in the day time the large beds of sand of the Jumna, Chumbul, Soane, and other rivers of Western India, and at night (evening and morning) feeding in the corn fields, which they damage very considerably. Occasionally I have seen a stray bird or two feeding along with the Sáras. (*Qu. Gr. cinerea?* though the bright red head of the Sáras renders it familiar to all, B.); but I have never observed any below Dinapore, and cannot say whether they are common about Meerat and Kurnaul. They are very shy, and difficult to approach in flights, and there is always one of them on the lookout *for the enemy*. I have, however, sometimes found one or two down on the skirts of a *jewer* field, and thus an occasional bird may be shot.

"The similitude of plumage of both sexes is striking; but the male is somewhat larger than the female. The former weighs about 4 lbs., and stands about 25 inches high.

"The *Coolen* possesses a recommendation not common to all birds; namely, it may not only please the taste of the lovers of the fowling-piece, but likewise suit the palate of the epicure. For my part, I award the palm to it, even over the Floriken."

Another sporting writer, who seems equally to appreciate the flavour of "roast Coolen," remarks, that "there are two species, the large and the small" *(i.e., Grus cinerea* and *Grus virgo);* "the former are rather scarce, but appear at the same time, and feed with their smaller brethren. Both make their appearance at the commencement of the cold weather, and depart at the same time as the wild fowl. In a sporting sense, I am well acquainted with them, and will therefore do my best to describe how a good bag is to be made. In the first place, it is necessary to be on the ground by dawn of day; at this time, flight after flight wend their way towards the favourite feeding-grounds, and may be seen and heard (perhaps the latter before the former) at a considerable distance. To know their favourite food is a sign-post as to direction (day after day I have been to to the same fields and met with the same success). The great favourite in this part of the world is *mote,* a grain somewhat resembling in appearance unripe grain; and the earlier the sportsman appears in these fields, the better will be his bag. *Bajra* and *jawa* fields also often hold Coolen after the green is gathered; the stalks are not cut till a much later period. The Coolen remain feeding till eight or nine A.M., and then proceed to the sands of a river or *j'heel,* remaining there as long as the sun's beams are uncomfortably hot. About four P.M. they leave for the fields, and return after sundown to the sands for the night. It is usually very difficult to get a shot at mid-day, as they keep to an open space, are very shy, and seem to comprehend a man's intentions very quickly. It is their appetite which betrays them whilst feeding, or very few would be shot. By stratagem, however, I once surprised a large flock of these birds, at a small *j'heel* near Deeig, which was literally covered with them. I managed, by creeping unperceived through long grass surrounding the *j'heel,* to bag seven at a single discharge of my gun, loaded with No. 2 cartridges. Loose shot is of no use whatever. I bagged seven as stated above, but not without considerable difficulty, even after they were on the ground, for about two-thirds were only wounded, and Coolen can both run and fight well, and these did both. The Coolen, when wounded, dies game, and his attitude of defence is very commendable. Instead of tamely submitting to his fate, he throws his long neck into the air, making it oscillate like a snake, whilst his beautiful red eyes seem to flash fire. As a bird for the table the Coolen is very superior, standing in my opinion next to the Floriken *(Otis bengalensis)*. It should be kept a week before being cooked, and this is easily done in the north-west provinces, during December and January. Coolen visit the west of the Jumna in immense numbers. They are found at Delhi, Agra, Muttra, Bhurtpore, Bundelkhund, Neemuch, Nusseerabad, and east of the Jumna. They appear to be seldom met with (at least I never heard of or met with any) in Bengal, in Dinapore, Gorackpore, Benares, Cawnpore, Meerut, &c., &c. To my surprise, however, I read in the 'Calcutta Sporting Review,' that they are found at Dakka. If so, and they all arrive in India from the same place, the Coolen must make a long flight to little purpose, and leave a large tract of country unvisited."[*]

These Dakka "Coolen" are no doubt the *Grus cinerea*, for the *Gr. virgo* certainly does not visit Lower Bengal; nor are the others much seen in the Gangetic delta.

---

[*] "Calcutta Sporting Review," 1847, p. 163.

GRUS ANTIGONE.

(PAGE 19.)

A LETTER received from Mr. Blyth has the following notes to his former communication upon the Cranes of India:—

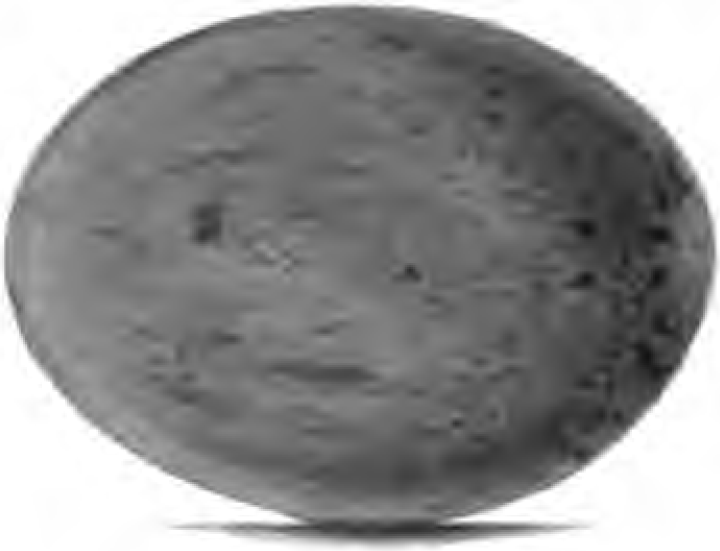
"Captain Tickell has since met with the true 'Sara's eggs, and acknowledges his former mistake in a letter just received."

"*Grus leucogeranos* is mentioned by Schlegel to occur in Bengal, though I never heard of it in any part of India except in Rajhastan, where my friend Lieutenant James, lately assured me that he had repeatedly seen this conspicuous and unmistakeable bird, though he never succeeded in shooting one."

The following *errata* in this paper, chiefly in the spelling of the proper names, should be corrected:—

Page 19,	line 6 from bottom,	for *migratory*,	read *non-migratory*.
... 20,	line 12 from top,	for *Churro*,	read *Churrs*.
... 20,	line 17 from top,	for *Behary*,	read *Behar*.
... 22,	line 14 from bottom,	for *district*,	read *districts*.
... 23,	line 5 from top,	for *Guzret*,	read *Guzrat*.
... 24,	line 9 from bottom,	for *Jewer*,	read *Jewar*.
... 24,	line 12 from bottom,	for *Meerat*,	read *Meerut*.
... 25,	line 19 from top,	for *green*,	read *grain*.
... 26,	line 9 from top,	for *Gorackpore*,	read *Gorakpur*.

ILLUSTRATIONS OF FOREIGN OOLOGY.[*]



SYPHEOTIDES BENGALENSIS.

April, 1850.

The Bustards compose a well marked family of birds, intermediate in affinity to the Ostrich and *Rhea* on the one hand, and the *Charadriadæ* on the other. They have exactly the gait and carriage of the Ostriches; and their *Pressirostral*[†] affinity is indicated by the structure of the skeleton, and even by the mode of flight, by the flavour of the flesh, by the paucity and colouring of the eggs, and by the seasonal changes of plumage which some of the species undergo. We know of no particular *Rasorial* tendencies beyond what are indicated by the mere bulkiness of body, by the compressed and semivertically carried tail (as in the common fowl, as also in the Ostrich), and the habit of *strutting* with expanded wings and tail, as the males of some of the species do in the breeding season.[*] The Ostrich, however, also enacts something of the kind, as we have personally witnessed; seated on the whole length of his tarsi, he spreads out his plumage and displays his wings finely, at the same time oscillating his long neck from side to side, bringing the head nearly to the ground in a manner somewhat ludicrous to behold. The little Ruffs, too, present an analogous case among the undoubted *Pressirostral grallatores.* As regards the affinity of the Bustards to the Ostriches, the development of the rectum is one of the manifold tokens by which it may be traced.[†] But we must not overlook the difference in the character of the eggs and of the number laid; though as several female Ostriches are known to lay in the same nest, we are not aware that it has been quite satisfactorily ascertained how many are produced by each individual.

---

[*] Communicated by E. Blyth, Esq., Calcutta.—W. J.

[†] If the *Pressirostres* of Cuvier be combined with his *Longirostres*, and thus made to comprise the *Charadriadæ* and *Scolopacidæ* of English systematists, we have then a natural and well defined series, distinct alike from the true *Cultrirostres* or *Ardeadæ*, and the restricted *Macrodactyli* or *Rallidæ*. The *Gruidæ*, pertain in our opinion to the first of these series, and so also do the *Palamedeadæ* (comprehending the *Jacanas*). In each series the *egg* and *chick* have a very distinct character.

The geographical focus of the Bustard is Africa, and we believe that the only wholly extra African species are the four of India and the single Australian species, which to judge from Mr. Gould's representation of it, would appear to differ very little indeed from the Large Indian Bustard.[‡] There is none in either America nor in all South-eastern Asia and its islands; not even in China (so far as hitherto observed);[§] and the *O. luzoniensis*, founded on Sonnerat's *Paon sauvage de luçon*, is identified by Mr. G. R. Gray, with *O. edwardii* (vel *nigriceps*) of India, and is extremely doubtful as an inhabitant of the Philippines. But should it really prove to exist there, and at the same time to be identical with the Great

---

[*] Mr. Elliot thus writes of the large Indian species:—"October 12th, killed a large *Cock Bustard.* When first seen, he was making a curious noise, like a person in pain moaning, which was heard at a considerable distance. I at first thought it proceeded from some one in distress, and rode towards the spot under that impression until I saw the Bustard. He was strutting about on some high ground, ruffling his wings and distending his neck and throat, making the feathers stand out like a ruff. I frequently afterwards heard the moaning, always at the same season;" *Madr. Journ.* xii. 8. *Vide* also Mr. Hodgson's Account of the Bengal Floriken, in *J. A. S. B.* xvi. 885.

[†] *Vide* Todd's Cyclopædia of Anatomy and Physiology, Art. *Aves*, by Prof. Owen.

[‡] Referring to M. Alfred Malherbe's "Catalogue Raisonné d'Oiseaux de l'Algerie," we find that he only includes the *Tetrax campestris*, whereas we should have looked at least for the *Houbara* in that province.

[§] If found in China, so striking a bird as any species of Bustard would surely be depicted in the collections of drawings of Chinese birds by native artists, and of which the species may generally be recognized with facility. We have several times thus seen a magnificent undescribed species of *Bonasa* or Ruffled Grouse represented in these drawings.

Bustard of India, we should then feel scarcely surprised at the Australian species being also the very same.

The great probability, however, is, that the Indian and Australian Bustards are distinct, however closely affined, and that this family has no representative in the Island of Luzon. It is even unknown on the eastern side of the Bay of Bengal (southward at least at Tippera, where *Sypheotidis bengalensis* occurs), though a solitary straggler of the *Sikh (Sypheotides aurita)* has been shot at Sandowa in Arakan, as noticed in the "Bengal Sporting Magazine" for September, 1835, p. 151. "The Mughs had never seen a bird of the kind before;" and subsequent good observers in that province have never met with a second instance.

As a general rule, we believe the larger species of Bustard have the male about a third larger than the female; *e.g. Otis tarda* of Europe, and *Eupodotis edwardii* or the "Great Bustard" of India; and these two birds (and probably the restricted congeners of the latter species), have a remarkable gular bag in the male sex, which in *Eu. edwardii* (according to Mr. Jerdon), "can contain three quarts of water and more." In the smaller species, known as *Floriken*, the males of which, like both sexes of the Golden Plovers, &c., are distinguished by partially black plumage in the breeding season, we believe there is never a gular bag; and the sexes are either alike in size, as in *Tetrax campestris*, or the females are even rather larger, as in the Bengal Floriken and *Sikh*, which latter is known as the "Floriken" in Southern India. We have seen specimens of *Tetrax campestris* or the European "Little Bustard," in which the characteristic breeding dress of the male was being replaced by the plainer garb of the other sex; and have witnessed the same change in males of the Bengal Floriken, which a friend long kept loose in his garden, but in these the abdomen alone remained black, when in non-breeding costume. Such birds have been erroneously described as *young males;* a mistake the more likely to arise, as all do not undergo their changes at the same season. The sexual difference of plumage of the *Houbaras* we are less acquainted with; but a good observer, to be quoted presently, states, that the sexes of the Indian *Houbara* "are very nearly alike."

The Great and Little Bustards of Europe and Western Asia are distinguished from all others by their much stouter bill and heavier and more gallinaceous-looking general aspect. They are respectively the types of the two divisons, *Otis* (as restricted) and *Tetrax*, each consisting of but a single known species. The *Houbaras* approximate the same character in the shortness of their tarsi,[*] but have the weaker and more ostrich-like bill of the rest of the group. Two nearly affined but well distinguished species, respectively inhabit Spain and Northern Africa and North-western India, Affghanistan, and probably Persia; and a third would seem to exist in *O. ruficrista* of Southern Africa: of these the first two are remarkable for the adornment of both sexes, with a showy crest and greatly developed nuchal ruff. The remainder fall under the divisions *Eupodotis*, comprehending the great Bustards of India, Australia, and many in Africa; and *Sypheotides*, comprising the "Floriken" of Africa and India—two seemingly well marked and very recognisable divisions.

India, as we have seen, possesses four species in all; and we will try to rescue from the oblivion of a sporting journal the following notices of them by a late accomplished sportsman, who, unlike so many of his brethren, could write sometimes about animals without ingeniously avoiding to impart the slightest information concerning their habits and history—something better and more interesting to the generality (we hope) of readers than mere records of slaughter.

Of the Great Bustard of India *(Eupodotis edwardii)*, this gentleman writes:—"It measures four feet four inches from point of bill to toes, and seven feet ten inches in extent of wings. It has a receptacle or bag to the neck. It is very strong on the wing, and seldom allows any one to approach nearer than 100 yards, when at one bound he raises himself in the air with apparent ease.

"In Hurriana it is called by sportsmen the *Tokdar* or *Tokdhur*, and *Gooraeen* by the natives of the country. In other parts it is called *Gugunbher* and *Sohun*, also *Burra Chirath* (i. e. *Charj*). They resort together in the cold weather in flocks of from three to twenty-five; but in the hot winds and rains they separate, pair" (?), "and breed. The female lays two eggs in a nest on a prominent hillock, whence its native name of *Gooraeen*."[†] For further particulars, *vide* Jerdon, in "Madras Journal of Literature and Science," xii. 8. This naturalist states:—"The Bustard breeds most generally about the end of the monsoon, and subsequent cold weather, the female laying one or two eggs; it however varies much in the time of breeding. The egg is of a dark olive colour, with obscure darker blotches. When feeding, it is generally wary and difficult to approach; but during the heat of the day, it lies down either in the long grass or in the shade of some bush, and is then often approached quite close. It usually takes a long flight when once raised, often several miles, and flies with a continual flapping of its wings, never sailing."

---

[*] So also does the *Eupodotis denhami*.

[†] "Gunga," in *Bengal Sporting Magazine*, September, 1837, p. 144.

Of the Bengal Floriken *(Sypheotides bengalensis)*, Mr. Hodgson has given so full and excellent an account in the "Journal of the Asiatic Society of Bengal" (*i. e.* "The Asiatic Society," by precedence of all others of that name), vol. xvi. pp. 884, *et seq.*, that it is hardly necessary to cite what our sporting authority has penned concerning it. He remarks, however, that "these birds are generally met with in patches of long grass cover, and jhoowad jungle in the Gorruckpore *Terai*, and along the banks of the Gunduck and other rivers in that direction. I have also," he adds, "seen an occasional bird in the Meywar district, about Neemuch, in the direction of Burrasadree. They are very difficult of approach; and when wounded, will run a considerable distance. The surest method of getting within shot of them, is to accompany a native driving a bullock towards the spot, or the syce" (groom) "leading your horse. The former plan, however, is the surest."* It is remarkable, that the males of this species, in their full breeding livery, so adpress the long feathers of the neck constituting the ruff, in their ordinary movements, that its presence would never be suspected, and the neck looks thin and slender like that of an Ostrich. This we have often observed with some surprise, in those which our friend kept in his garden, and which lost much of their timidity, but never became tame or familiar. They were remarkably fond of the large crimson double flowers of a species of *Hibiscus* commonly grown in Indian gardens, and would strip all the bushes off them as high as they could reach. When gallanting before the females, however, the long neck feathers are displayed, and also in their contests; for though Mr. Hodgson asserts, that "Even in the season of love, the intercourse of the sexes among adults is quite transitory, and is conducted without any of that jealousy and pugnacity which so eminently distinguish most birds at that period." Our friend above referred to (and who has shot many of these birds) assures us, that he once saw two males fighting desperately, and so eagerly, that upon being disturbed they renewed their conflict at a short distance, which ended by his bagging them both. Mr. Hodgson is also certainly mistaken in his assertion, that the nuptial dress is worn permanently, as we have witnessed the change before described, and the subsequent partial renewal of the breeding livery, which latter was not well developed in captivity, and have likewise observed the fact in the skins of wild specimens.* "The eggs," writes Mr. Hodgson, "are of the size and shape of an ordinary domestic fowl's, but one sensibly larger and more richly coloured than the other. This larger and more highly tinted egg is that of the male young, the smaller and less and richly hued egg that of the female progeny." In general we should say, however, that the adult female is somewhat larger than the male, as the female *Sikh* is constantly. The egg figured we took from the oviduct, and believe it to be what Mr. Hodgson considers as that which would have produced a female. That figured by Mr. Hodgson, however, is smaller and more speckled, and the eggs are described by him to be "about the size of those of a bantam, 2 inches long by 1½ inches broad, and of a sordid stramineous, being very minutely dotted, and more largely blotched and clouded with black, somewhat as in *Lobivanellus goënsis*.

---

* "Bengal Sporting Magazine," June, 1837.

The *Sikh (Sypheotides aurita)* or *Floriken* of the sportsmen of Southern India, is much more extensively distributed over India generally than *S. bengalensis*, being found, we believe, wherever the latter occurs, also over Southern India; and "they are so plentiful sometimes at Guzrat, that they may be bought from the Wagrees alive for a few pice" † (*i. e.* twopence or threepence each). For a full account of this species, *vide* Mr. Jerdon's excellent article in his "Illustrations of Indian Ornithology," from which we will only quote, that it "lays three or four eggs of a thick stunted ovoid form, very obtuse at the larger end, and of a dark olive colour." Our sporting authority remarks, that "in walking, the *Sikh* carries its head very gracefully, moving it backwards and forwards with each step, the broad head and long thin neck appearing over the grass, gives it much the resemblance of a cobra snake; and no doubt this graceful motion gave rise to the native provincial name of Chulla Churj." Other names cited by him, are, "*Nehla*, *Newalia*, *Oorail*, and *Abluk Chereei*."

---

* So also, Mr. Jerdon states, of the *Sikh* or Lesser Indian Floriken. "I have watched," he writes, "the progressive change in birds at Jalnah, where a few couple always remain and breed, from the garb of the female to the perfect *Black Floriken*" (of Southern Indian sportsmen), "and back again from this, the nuptial plumage, to the more sober livery of the rest of the year."—"*Illustrations of Indian Ornithology*," Art. *Otio aurita*.

† Journ. As. Soc. Beng. vi. 709.

The same writer supplies the only notice we have seen, beyond records of its abundant slaughter in Sindh, &c., of the Indian *Houbara*. "Hurriana," he remarks, "has also its *Floriken;* which, however, is a very different bird from the *Floriken* of the plains of the Ganges, and is, in fact, the" (Indian) "*Houbara* or Ruffled Bustard, so called from the ruff of feathers on each side of the neck, and supposed to be a bird of the very highest flavour. * * * It frequents the same country as" *E. edwardii*, "dry sandy plains, where there is a little grass, and is also found in wheat and grain fields. The native name for it is *Tilaor*. The flesh is exceedingly tender, and so covered with fat, that the skins are with difficulty dried and preserved. For an elaborate account of this species, *vide* Blyth, in *Journ. As. Soc. Beng.* xvi. 786. Captain Thos. Hutton there states of it—"These handsome birds are common on the bare stony plains of Affghanistan, and sometimes occur in small packs of five or six together. They fly heavily and for short distances, soon alighting and running. They remain all the year. The Affghan or *Pushtu* name is *Dugdaoor*.

ILLUSTRATIONS OF FOREIGN OOLOGY.

CORVUS CULMINATUS—C. SPLENDENS—ENDYNAMYS ORIENTALIS.

THERE is no economical habit more remarkable in Ornithology than that of the parasitic and artificial propagation or hatching of the eggs; the first was thought to be confined to the common Cuckoo of Europe, but more extensive researches discovered that it was common to various genera of the *Cuculidæ*, and that members of a few other groups also pursued the same instinct. Various causes have been attempted to be assigned for this anomalous habit, but without sufficient reason; and researches and comparisons in the structure of the parasitic species are still wanting, and would without doubt repay the inquirer.

Mr. Blyth, among numerous drawings of eggs, has sent us some of those of the parasitic breeding *Cuculidæ*, and on one of the plates of our present number, we have endeavoured to represent the eggs of both the Cuckoo and those of its foster parents, and between these will be observed the remarkable assimilation in the colour and markings—a wonderful evidence of design in the object contemplated. On the plate are represented the eggs of two species of Indian Crows, *Corvus culminatus* and *splendens*, which show little variation from the general appearance of those from other true crows with which we are acquainted; and underneath them we have placed figures of the egg of the *Endynamys orientalis* or Coël, from Calcutta, which Mr. Blyth writes, "invariably deposits its eggs in the nests of these crows;" and at his request, we copy from his paper upon the Indian Cuckoos (privately printed), the following notice of their habits during the breeding season:—

"The Coël, though a bird of the skulking unobtrusive habits of the *Cuculinæ* generally, and having the same quiet gliding movements from bough to bough, is not particularly shy, allowing of a near approach, while itself lies still to avoid observation, especially when feeding, at which time they may be shot as fast as a gun can be loaded by watching for them under a tree to which they resort for its fruit, as a spreading banyan in its season, and they are particularly attached to the densely foliaged *Bokul* (Beng.) or *Moulsari* (Hind.)—(*Mimusops elengi*), keeping almost exclusively to this tree while its fruit is ripe, and at other seasons feeding on various berries, which are swallowed entire, and the large seeds of some of them ejected clean by the mouth. Though several may often be seen quietly feeding together, and sometimes in very conspicuous situations, there is no association amongst them, but each pursues its course independently, as we believe do all other *Cuculinæ.* As their breeding season approaches, however, about the commencement of the year or a little before, the Coëls become very noisy, and continue so for several months during the hot weather; the frequent utterance of the loud call-note of both sexes (a continuous repetition of the sound *kuil* many times successively, with a liquid intonation of the *l*, and slight variations), though certainly not unmelodious when heard sufficiently far off and in moderation —being thoroughly cuculine in its tone—becomes wearisome from its monotonous reiteration at all hours of the day and night, more or less, and to some persons occasions no slight annoyance The natives, however, seem to admire it much, as they frequently cage this bird, feeding it almost entirely on boiled rice, with sometimes a plantain! and its voice, when thus heard too close, becomes insufferable to European organs. The male Coël has also another cry (*ho-ā-o*), corresponding to the *cuckoo* note of *Cuculus canorus*, and which is delivered in like manner.* The female, as before remarked, appears to deposit her eggs invariably in the nests of the true *Corvi*, and so abundantly, that we have known five or six Coëls' eggs to be brought in together by a person who had been destroying Crows' nests, each taken from a different one. The egg is certainly so often found alone, that there can be little doubt that the Coël destroys the eggs of the Crow at the time her own is deposited, but it is doubtful whether the young Coël is endowed with the instinct of ejecting any companions it may have, and it would seem that it has not that propensity, but the fact remains to be systematically observed. Mr. Frith informs us, that he has never found more than one Coël's egg in a nest, and in his long experience, has only met with it in those of the two Indian Crows. He has repeatedly seen the common *C. splendens* attack and drive off the female Coël from its neighbourhood; and in one instance observed the latter, while trying to escape the pursuit, dash itself against a pane of glass in an outhouse, with so much force, as to fall dead from the injury it received, the bill and fore-part of the head being quite smashed. The current native story is, that the Crow soon discovers the young Coël to be an interloper in its nest, and drives it away at an early age to find its own provender, but this is certainly not the case, as shown by an anecdote related by Major Davidson, who remarks—'Happening to stand in the verandah of my bungalow, I heard a loud chattering noise on the lawn, and believing that a young Crow had fallen from its nest, I advanced to put it out of the reach of harm. Instead of a Crow, I was much astonished to find, that an old Crow was feeding a young bird of a dark brown colour, transversely striped with cinerous bars. On asking its name of a native who also saw it, he replied, that it was a young Coël. I approached it within a few yards, and saw it receive food from the Crow's bill in the usual supplicating posture, with extended wings and body slightly quivering.'* His native informant further assured Major Davidson, that the Coël was always thus reared by the Crow, who invariably continued to feed its adopted nestling until it could shift for itself.

---

* Lately, we have remarked the *Cuc. varius* occasionally delivers its whistling song-note in this detached manner, when scarcely, however, arrived at full song—*Peer peēur-pa, Peer peēur-pa.*

"The egg of the Coël measures generally 1¼ inches long, sometimes, in more rotund specimens than usual, little more than 1 inch, by ¾ to ⅞ inch where broadest, having ordinarily the small end well distinguished, and indeed much resembling in size and form the egg of *Dendrocitta rufa*, but of a considerably deeper colour. Still it is of a pallid olive-green of different shades, marked all over with numerous reddish-dusky spots, much as in some Blackbird's eggs, which are more numerous—in some much more numerous—towards the large end, where they incline to form a zone; and notwithstanding the difference of ground colour from the egg of *Cuculus canorus*, there are few acquainted with the latter who would not at once

---

* *J. A. S.* viii. 684.

Digitized

suggest the Coël's to be a *Cuculine* egg of some kind, from a certain resemblance in its appearance to the Cuckoo's egg, which at once strikes the observer. Filling several blown egg shells of the Coël with water, they were found thus to weigh, from 100 to 120 grains each, generally about the latter; those of *Corvus splendens* we found thus to vary, from 180 to 245 grains, and those of *C. culminatus*, from 235 to 305 grains.*"

The following observations, in a letter from a missionary friend to Mr. Blyth, also bear on the subject. "With respect to the Crow discovering that the bird it has reared is an interloper, and consequently ejecting it from the nest, you seem to have doubts, on account of the anecdote related by Major Davidson. Now, against this, I have to bring my own testimony, and that of an intelligent native, who from his youth has been a keen sportsman and bird fancier. He is also a man of undoubted veracity. He states, that after the Coël has laid its egg in the Crow's nest, it comes often to watch the nest, from a little distance, to see when its young is expelled. This happens as soon as it puts on its speckled dress, which is, when it is fledged. As soon as it is driven away, the mother takes her young into her charge and feeds it. This he has often observed, being in the habit of watching these birds when at Gwaliôr. This statement is confirmed by others.

"As to the mother feeding her young, I have seen it myself. The young, though full grown, sat quitely in a peepul tree, while its mother hunted for fruit, and she several times fed it before me. I watched them near at hand for some time, and at last they both flew away, the mother uttering, as she flew, her well known cry. I have since seen full grown young Coëls feeding themselves alone."

The truth, we apprehend, is, that the Coël produces a series of several eggs, at intervals of two or three days, like the European Cuckoo, and as they are hatched, and the young ejected in succession, she takes charge of each of the latter in turn, and feeds it for a day or two only, by which time it learns to shift for itself, but we regret that we have not had the leisure to observe more *in propriâ personâ*.

---

* This great variation should be borne in mind with reference to the note on the subject of the relative weight of birds and of their eggs, given in p. 6, *ante*.

ILLUSTRATIONS OF FOREIGN OOLOGY.

LOPHOPHORUS IMPEYANUS — PURCRASIA MACROLOPHA.

DRAWINGS of the eggs of these two birds were forwarded to us by Mr. Blyth, for whom we believe they were procured by Captain Thomas Hutton, in whose valuable and interesting notes "On the Nidification of Indian Birds" (Journ. Asiat. Soc. Beng. vol. xviii. pp. 3-681), we have the following short descriptions:—

"These birds *(Lophophorus impeyanus)* do not occur so low down as Mussooree, but are found in abundance on the next range; in days of yore, they were found at Simla, but civilization has of late years banished them to the less disturbed localities. It makes no nest, but lays its eggs on the ground, the number not satisfactorily ascertained, as one nest contained three and another four eggs, of a pale brown or sandy hue, thickly sprinkled over with reddish-brown spots and dashes. Diameter, $2\frac{1}{3} \times 1\frac{1}{8}$."

"For the eggs of this species *(Purcrasia macrolopha)* I am indebted to a friend who took them in June from the ground, where there were no other symptoms of a nest than a slight scratching away of the leaves and grass. The eggs were five in number, of a sandy brown, sprinkled over with specks and large spots, and blotches of deep red brown, resembling dried blood. Diameter, $2\frac{1}{16} \times 1\frac{7}{16}$."

In form and in the colouring, these eggs resemble those of the *Tetraonidæ*, which are generally marked with reddish or brown spots and blotches — not those of the *Phasianidæ*, where the form is rounder, and the colouring uniform and without markings. The markings and colourings of the Capercailzie and Common Black Game of Europe *(T. urogallus* and *tetrix)* are very similar.

[illegible]

[illegible]

[illegible]

bar of the same colour across the wings, the external structure is scarcely in accordance with any of the generic forms we have mentioned; the bill is of more than the usual strength, and the lips are furnished with an extension of the edges or a rudimentary wattle, of which we have no other example among the Gulls or Terns; the narrow white elongated feathers, springing from the sides of the head, are equally without example. The feet are small and tern-like in size, but very remarkable in the proportion of the toes, and in the hallux being connected to them by a rudimentary membrane. The structure of the tail and feet, nearest to those of the true Terns, *Sterna*, remove it from *Anous* where it has been generally placed. We do not advocate the multiplication of genera, particularly in a group numbering only from eighty to ninety species; but we do think that this bird has claims stronger and more peculiar than some others; and if by any ornithologists it is thought worthy of a subgeneric separation, we have drawn its characters under the title of *Inca*.

We consider it a most interesting form, drawing closer the alliance between the *Laridæ* and *Pelicanidæ;* for wherever we place *Phäeton*, whether with the first or last, this bird is the intermediate step; and we may also think that we see the white lengthened feathers, occurring during the breeding season in many of the Cormorants, repeated in the beautiful white plumes of *Inca mysticalis*. Lesson records having met with this species abundantly in February, 1823, on the barren islet of San Lorenzo, at the opening of the immense Bay of Callao.

We are indebted for the specimens, in spirits, of the head and feet which have served for our illustration, to J. M'Lean, Esq., long resident in Peru.

Digitize

MONOGRAPH OF THE FALCONIDÆ,

SYSTEMATICALLY ARRANGED BY

DR. T. T. KAUP.*

IV. ORDO ICHTHYORNITHES.

A. Suborder ACCIPITRES, *Linn.*

THE nostrils are situate in a cere, the upper mandible curved and hanging down over the under; the toes not webbed, with long curved claws. There exist five families—

I. Falconidæ. II. Strigidæ. III. Gypogeranidæ. IV. Gypaëtidæ. V. Vulturidæ.

I. Family FALCONIDÆ. FALCO. *Linn.*

The eyes sidewards; the toes never feathered; middle toe never thrice as short as the tarsus; cere naked or visible through the plumage; head and neck feathered.

A. Subfamily FALCONINÆ.

1. HIËRAX. 2. *Tinnunculus.* 3. *Harpagus.* 4. *Falco.* 5. *Ieracidea.*

In this subfamily the typical genus is *Hiërax*, with the largest and roundest head, with the largest brain; the socket of the eye nearly closed, and the nostrils bored in the nasal bones.

---

* Continued from p. 121-34 of 1849.

I. GENUS HIËRAX, VIGORS.

Two teeth on each side of the bill; tarsus short, covered with irregular scales; size of *Coccothraustes*. The *Psittacine* or true *Falconine* type. East India.

1. *H. cœrulescens*, Vig.; *F. cœrulescens*, Linn.; Temm. pl. col. 97; Edw. t. 108. *F. bengalensis*, Briss.; *F. fringillarius*, Drap.; *F. malayensis*, Strick.—Band over the ear white; wings and tail with white spots. Java, Borneo.

1. *a. H. entolmus*, Hodgson.—Band over the ear and occiput white. Nepaul.

2. *H. erythrogenys*, Vig. (♂); *F. sericeus*, Kittl. (♀) Vogel.—Wings and tail without bands and spots.—Island of Luçon, Manilla.

II. GENUS TINNUNCULUS, VIEILL.

One tooth on the bill; tarsus short, covered with irregular scales; toes short with transverse scales; the exterior toe as long as the interior; the first or the first and second quills, near the tip on the inner web, emarginated. The swallow or *Milvine* type.

a. Subgenus *Polihierax*, Kaup.—The wings very short, not reaching to half of the tail; the first and second quills obtuse, emarginated. The *Falconine* type.

1. *T. semitorquatus*, Kp.; *F. semitorquatus*, A. Smith, Ill. of S. Af. Zool. ♂ and ♀.—The wings with white spots on the exterior web. S. Africa.

b. Subgenus *Erythropus*, Brehm.—The secondaries very short, shorter than the quills; only the first quill emarginated. The *Milvine* type.

2. *T. vespertinus*, Kp.; *F. vespertinus*, Linn.; *rufipes*, Naum. tab. 28, pl. enl. 43, i.—The claws whitish-yellow; cere and feet red, rarely yellow. Asia, Africa, Europe.

c. Subgenus *Pœcilornis*, Kp.—Wings only reaching half the length of the tail; the secondaries longer than the quills; the first and second quills emarginated; occiput with a variegated colouring. The *Accipitrine* type.

3. *T. sparverius*, *F. sparverius*, Linn.; Wils. Am. Orn. t. 32, f. 1, ♂; t. 16, fig. 1, ♀; *F. gracilis*, *isabellinus*, and *cinnamominus*, Swains. — The lesser wing-covers spotted with black. N. America.

3. *a*. *T. sparveroides*, Kp.; *F. sparveroides*, Vig.—The lesser wing-covers without black spots. Cuba.

d. Subgenus *Tichornis*, Kp. — The wings very long; the secondaries longer than the half of the wings; only the first quill emarginated. The *Aquiline* type.

4. *T. cenchris*, Frisch., Naum. t. 29; *F. cenchris*, Fr., Naum.; *tinnunculoides*, Schinz. and Temm.; *xanthonyx*, Natterer. — The claws yellowish, the colouring like *T. alaudarius*. S. Europe, Africa, Asia.

e. Subgenus *Tinnunculus*, Kp.—The secondaries about as long as the half of the wings; the first and second quills emarginated; occiput without a variegated colouring. The *Buteonine* type.

5. *T. alaudarius; F. tinnunculus*, Linn.; Naum. 30, pl. enl. 401, 47 i.; *interstinctus*, M'Clell. Proc. 1839, 154.—Beneath, light rufous, with round black spots. Europe, Africa, Asia.

6. *T. cenchroides*, Kp.; *F. cenchroides*, Vig. and Horsf.; Gould Birds of Austr. — The inner wing-covers pure white. Australia.

7. *T. punctatus*, Kp.; *F. punctatus*, Cuv.; Temm. pl. col. 45. — The wings only reaching to the half of the tail. Madagascar.

8. *T. rupicolus*, Kp.; *F. rupicolus*, Daud., Vaill. 35; *F. capensis*, Shaw; *F. rufescens*, Swains.—Entirely dark rufous, with black spots. S. Africa.

9. *T. rupicoloides*, Kp.; *F. rupicoloides*, A. Smith, Ill. of S. Af. Zool. — Wings, 11″; tarsus, 2″; middle toe, 1″ 10‴. — S. Africa.

III. GENUS HARPAGUS, VIG.

Two large and distinct teeth on the upper mandible; tarsus and toes with broad transverse scales; wings very short, very like a *Nisus* or *Accipiter*. The *Accipitrine* type. S. America.

1. *H. diodon; Falco diodon*, Temm. pl. col. 198; *Bidens femoralis*, Spix; *Diodon brasiliensis*, Less. — The inner wing-covers and the tibial feathers rufous.

2. *H. bidentatus; F. bidentatus*, Lath.; Temm. pl. col. 28, adult, 228, young; *Bidens rufiventer et albiventer*, Spix, t. vi. vii. — Adult, beneath rufous.

IV. Genus FALCO.

One distinct and large tooth on the upper mandible; the toes long, and the exterior longer than the interior; the tarsus with irregular scales; the first or the first and second quills emarginated The *Aquiline* type. Cosmopolite.

a. Subgenus *Æsalon*, Kp.—Little falcons with short wings; the first and second quills emarginated. The *Falconine* type.

1. *F. æsalon*, Gmel.; pl. enl. 44 f., Naum. 2; *F. regulus*, Pall.—Beneath, pale rufous, with dark-brown longitudinal spots; tail with 6–7 bars. Europe, Asia, Africa.

2. *F. columbarius*, Linn., Wils. 15.3.—Beneath, more rufous, with dark brown longitudinal spots; tail with four bars. N. America.

3. *F. chiquera*, Daud., Vaill. 30; Gould, Birds of Himal.; *F. ruficollis*, Sw. West Afr. Birds, pl. 2.—The upper plumage dark cinereous throughout, with distinct blackish bands. Africa, Asia.

4. *F. femoralis*, Temm. pl. col. 12, i. 343; *F. aurantius*, Lath. Ind. var. γ.—The breast black, with fine white bands. S. America.

5. *F. tibialis*, Shaw; Daud., Vaill. 29 (Normal habit); *F. concolor*, Temm. pl. col. 330, Swains. W. Afr. Birds, pl. 3; *F. ardosiaceus*, Vieill. (cinereous var.)—*a*. Normal habit; beneath, rufous, with oblong spots; the tibial feathers black-brown. — *b*. Cinereous var., entirely cinereous, with black shaft-stripes. W. Africa.

b. Subgenus *Hypotriorchis* (part Boie), Kp. — Little falcons with very long wings and very short secondaries; only the first quill emarginated. The *Milvine* type.

6. *F. severus*, Horsf., Linn. Tr. xiii. 135; *F. aldrovandi*, Reinw. Temm. pl. col. 128. — Beneath, rufous, young with round black spots. Asia.

7. *F. subbuteo*, Linn.; pl. enl. 432, Naum. 26.—Two white spots on the occiput; breast and belly white, black spotted; wings and tail banded. Europe, Asia, South and N. Africa.

8. *F. aurantius*, Lath.; *F. rufigularis*, Daud.; *F. deiroleucus*, Temm. ♀, 348.—Breast and belly black with white fine bars. S. America.

9. *F. frontatus*, Gould, Birds of Austr.—Breast and belly rufous, with dark shaft-spots and black shafts. Australia.

10. *F. eleonoræ*, Gené., Mem. acc. Tor. 1840, t. 2, p. 41, Ch. Bonap. Ic. d. Faun.; *F. arcadicus*, Linderm. Isis, 1843; *F. concolor*, Temm. (Text.)—Wings without bands. The normal habit like *F. subbuteo;* the cinereous var. like *F. concolor;* var. of *F. tibialis*. Africa, S. Europe.

c. Subgenus, *Gennaia*, Kp.—Large falcons with short wings; the first and second quills emarginated; middle toe as long as the tarsus or shorter. The *Accipitrine* type.

11. *F. jugger*, J. Gray, Ill. Ind. Zool.; *F. lugger*, Jerd.; *F. behree*, Lath.—The flanks and the tibial feathers mostly plain brown with clear spots. Asia.

12. *F. hypoleucus*, Gould, Birds of Austr.—Clear cinereous with black shafts. Australia.

13. *F.* ———, *F. laniarius et feldeggii*, Schleg. Abth. 10, 11; *F. tanypterus*, Licht., Mainz. Collection.—Head rufous, without a black frontlet; breast and belly with round spots on the top of each feather. Africa, Dalmatia.

14. *F. cervicalis*, Licht.; *F. biarmicus*, Temm. pl. col.; *F. chiqueroides*, A. Smith.—The rufous head with a black frontlet; occiput with two brown spots. Africa.

15. *F. lanarius*, Pall., Naum. t. 23; *F. cherrug*, T. Gray, Ill. Ind. Zool.—All the tail-feathers with clear rufous spots not extending to the shaft. Asia and Eastern Europe.

d. Subgenus *Falco*.—Large falcons with long wings, short tail and long toes; middle toe longer than the tarsus; only the first quill emarginated. The *Aquiline* type.

16. *F. peregrinator*, Sundev.; *F. sultaneus*, Hodgs.; *F. shaheen*, Jerd. Ill. Orn. pl. 12.—Beneath, dark rufous; the crop-feathers on the tips with rain-drop spots. Asia.

17. *F. peregrinoides*, Temm. pl. col. 479; *F. frontalis*, Daud.; *F. galericulatus*, Shaw, Vaill. 28.—Beneath, white, with a light rufous tint; tarsus 41; middle toe 44 mm. long. Africa.

18. *F. peregrinus*, Gmel.; pl. enl. 430, Naum. t. adult.—Breast

and belly, the tibial and the under tail-covers black-banded. Europe, Africa, Asia.

19. *F. anatum*, Bonap.; *peregrinus*, Wils. t. 76.—The upper parts dark brown; beneath, rufous, with oblong spots like a young *F. peregrinus*. N. America.

20. *F. melanogenys*, Gould, Birds of Austr. Australia.

e. Subgenus, *Hierofalco*, Cuv.—The largest falcons with the longest bill, the tip of the wings not reaching to the end of the long tail; toes long; the first and second quill emarginated. The *Buteonine* type.

21. *F. gyrfalco*, Linn.; pl. enl. 210, Naum. t. 21, 22.—The total colour white. N. Europe, N. America.

22. *F. subniger*, G. R. Gray, Ann. Nat. Hist. 1842.—The total colour soot-black. Australia.

V. GENUS IERACIDEA, GOULD.

One tooth on the upper mandible; the tarsus long, with large irregular scales, and 1½–2 as long as the middle toe; the toes with broad regular transverse scales; 1–3 quills emarginated. The *Buteonine* type. Australia.

1. *T. berigora*, Gould; *F. berigora et occidentalis*, Gould; *F. berigora*, Vig. and Horsf.—The brown tail with sixteen narrow rufous bars.

2. *T. novæ zeelandiæ*, Kp.; *F. novæ zeelandiæ*, Lath., Gmel. Forst. Ic. ined. t. 38. *F. australis*, Homb. and Jacq.—The tail with eleven small whitish bars not reaching to the shaft.

B. Subfamily MILVINÆ.

I. Genus Ictinia. II. NAUCLERUS. *III. Circus. IV. Elanus.*
V. Milvus.

Nauclerus is the typical genus in this subfamily, and represents the swallow type with very short secondaries, very long quills, swallow tail, and very short feet and toes.

I. GENUS ICTINIA, VIEILL.

The bill like *Falco*, with a tooth on the upper mandible, and a fine emargination on the under mandible; the tail a little forked; the secondaries a little shorter than the half of the wings; the first and second quill emarginated; hind toe with a broad sole. The *Falconine* type. America.

1. *Ictinia mississipiensis; F. mississipiensis*, Wils. iii. 25, 1; *I. ophiophaga*, Vieill., Gal. t. 1 f.; *Milvus cenchris*, Vieill.—The tail without bars.

2. *Ictinia plumbea*, Vieill; *F. plumbea*, Gmel., Spix 86, adult. Temm. pl. col. 180, young.—The tail with white bars.

II. GENUS NAUCLERUS, VIG.

The secondaries much shorter than the half of the wings; feet and toes very short; the tail much forked, and the first feather more than double the length of the middle feather. The swallow or true *Milvine* type.

a. Subgenus *Chelidopteryx*, Kp.—A tooth on the upper mandible and a fine emargination on the under mandible. The *Falconine* type.

1. *N. riocourii*, Vig.; *Elanoides riocourii*, Vieill., Gal. t. 17, Temm. pl. col. 85.—Light ash coloured. Senegal.

d. Subgenus *Nauclerus*, Kp.—Without a tooth and an emargination on the bill. The *Aquiline* type.

2. *N. furcatus*, Vig.; *F. furcatus*, Linn., Wils. 51, 2.—White, with black wings and tail. America.

The Subgenera, *b. c. e.* are not discovered.

III. GENUS CIRCUS, ANTIQ. LACEP.

The middle toe one half shorter than the tarsus; tarsus and toes with regular transverse scales. The *Accipitrine* or *Grallatorial* type.

a. Subgenus *Strigiceps* (part) Bonap. — The secondaries longer than the quills; the quills do not extend to the tip of the tail; 1–4 quills emarginated; bill slender as *Spilocircus* and *Circus*. The *Falconine* type.

1. *Circus cyaneus*, G. Gray; *F. cyaneus*, Linn.; *pygargus*, Linn., Naum. t. 39, 1, (♂) 2, (♀) 38, 2, (♂ young). — ♂ ash coloured, with white upper tail-covers, breast, belly, tibial, and under tail-covers. Europe, Africa, Asia.

1. *a*. *C. uliginosus*; *F. uliginosus*, Gmel., Wils. 51-2, young, Bonap. Am. Orn. t. 8, adult. — Very like *C. cyaneus*, but the young bird is beneath rufous, without distinct spots. It is a subspecies, climatic variety, or a race of *C. cyaneus*.

2. *C. melanoleucus*, Vieill.; *F. melanoleucus*, Gmel., Vaill. 32. — ♂ Head, body above, parts of the wings and crop, black. Asia.

3. *C. acoli*, Vieill; *F. acoli*, Daud., Vaill. 33. — ♂ The wings very short, extending to half the length of the tail; breast and beneath with rufous bars. S. Africa.

4. *C. maurus*, G. Gray; *F. maurus*, Temm. pl. col. 461; A. Smith, Ill. of S. Afr. Zool. t. 58; *C. ater*, Vieill.—The total colour black or black brown. S. Africa.

b. Subgenus *Glaucopteryx*, Kp. — The secondaries shorter than half of the whole wings; 1–3 quills emarginated. The *Milvine* or *Nauclerus* type.

5. *C. cinerascens*, G. Gray; *F. cinerascens*, Mont., Naum. t. 40, fig. 1 and fig. 2; ♂ middle age, fig. 3; ♀ young; *C. montagui*, Vieill., Gal. pl. 13.—With a black band over the quills. Europe, Africa.

6. *C. pallidus*, Syk. Proc. 11, 80, 1830; *C. swainsonii*, A. Smith, Ill. of S. Af. Zool. t. 43-44; ♂ ad.; ♂ middle age; ♀ young; *C. dalmatinus*, Rüpp., Mus. Senk., vol. ii. 1837.—Without a band over the quills. Asia, Africa, Dalmatia.

c. Subgenus *Spilocircus*, Kp. — The tibia and tarsus very long; the secondaries longer than the quills which do not extend to the tip of the tail; 1–4 quills emarginated; the feathers of the body with white round spots; the bill stronger than the bill of the *Strigiceps* and *Glaucopteryx*. The true *Accipitrine* type.

7. *C. jardini*, Gould, Birds of Austr. x. 3. — Beneath, rufous, with white spots. Australia.

d. Subgenus *Spiziacircus*, Kp.—The secondaries longer than the half of the quills, which are longer than the tip of the tail; 1–5 quills emarginated. The *Aquiline* type. S. America.

8. *C. macropterus*, Vieill., Enc. p. 1215; *C. albicolis*, Vieill., Enc. 1214, young; *F. palustris*, Pr. Max.; Temm. pl. col. 22, ad.; *C. superciliosus*, Less.—The tarsus 78–115; mm. long.

9. *C. histrionicus*, Kp.; *F. histrionicus*, Quoy. and Gaim., Voy. de la Uran. Ois. 15, 16; *C. cinereus*, Vieill., Azara 32.—The tarsus 62–69 mm. long; the tail with four bands.

e. Subgenus *Circus*, Bonap.—The bill longer, larger, more horizontal, and the toes longer; 1–4 quills emarginated. The *Buteonine* type.

10. *C. spilonotus*, Kp., Coll. of the Zool. Gard.—Head black; wings and tail without bars; beneath, white, with black oblong spots on the crop. Asia.

11. *C. ranivorus*, Vieill.; *F. ranivorus*, Daud., Vaill. 23.—The wings and tail with bands. S. Africa.

12. *C. æruginosus*, G. Gray; *F. æruginosus*, Linn.; pl. enl. 460, 424; *F. rufus*, Gmel. Naum. t. 37, 1 ♂, 2 ♀; 38, 1 ♂ young.—The wings and tail without bands. Europe, Asia, Africa.

13. *C. assimilis*, Jard. and Selby, Ill. Orn.—The tarsus 94-100; middle toe, 39–44 mm. long. Australia.

IV. GENUS ELANUS, SAV.

The claws round; the tarsus with small scales. Cosmopolite. The *Aquiline* type.

a. Subgenus *Gampsonyx*, Vig.—The tip of the wings extends to the half of the tail; only the first quill emarginated. The *Falconine* type.

1. *Elanus swainsonii*, Kp.; *Gampsonyx swainsonii*, Vig.; *El. torquatus*, Cuv., Less. Hist. Nat. des Ois. vii. 207.—Size of a thrush; it has analogies with *F. sparverius*. S. America.

b. Subgenus *Elanus*, Sav.—The wings longer than the short tail; the first and second quill emarginated. The *Milvine* type.

The subgenera *c*, *d*, *e*, are not discovered.

2. *E. melanopterus*, Leach.; *E. cæsius*, Sav.; *F. melanopterus*, Daud., Vaill. 36; *F. vociferus et sonninensis*, Lath.—The inner

covers of the wings white; tail 126 mm. long. Africa, Asia, Europe (accidental).

3. *E. axillaris*, G. Gray; *F. axillaris*, Lath.; *Circus axillaris*, Vieill.; *E. melanopterus*, Vig. and Horsf.—The inner covers of the wings white, with 6–7 black feathers; the tail 143–162 mm. long. Australia, Asia.

4. *E. leucurus*, G. Gray; *Milvus leucurus*, Vieill., N. Dict. d' Hist. Nat. n. xx. 563; Azara, 36; *F. dispar*, Temm. pl. col. 319, young; Bonap. Am. Orn. t. 11, 1 ad.—The inner covers of the wings white, with a long black stripe on the quills. America.

5. *E. scriptus*, Gould, Birds of Austr.—The inner covers of the wings white, with a black stripe over the quills and secondaries in figure of a V. Australia.

V. GENUS MILVUS, CUV.

The bill longer, horizontal, and large; the wings very long, at the tip curved like a sabre; 1–5 quills emarginated; tarsus short, covered on the sole with fine scales; the colour is rufous or soot black.

c. Subgenus *Lophoictinia*, Kp.—The bill lengthened and more slender; the nostrils longer than broad; the wings longer than the tip of the tail, which is forked; the emarginations of the quills more obtuse; the tarsus shorter, with small and irregular scales; the toes with 3–4 transverse scales only before the claws. The *Milvine* type.

1. *M. isiurus*, Gould, Birds of Austr. ii. 2.—The interior webs of the quills with black bars. Australia.

d. Subgenus, *Milvus*, Cuv.—The bill larger; the nostrils oval; the wings do not extend to the tip of the more forked tail; the emarginations are more angular and distinct; the slender tarsus and toes with horizontal scales; the sole of the toes with pointed warts. The *Aquiline* type.

2. *M. parasiticus; F. parasiticus*, Daud., Vaill. 22; *F. ægyptius, et forskahlii*, Gmel.; *F. migrans*, Bodd.—The bill yellow; total plumage soot black. Africa.

3. *M. affinis*, Gould, Birds of Austr. viii. 3; *M. melanogenys*,

Temm. et Schleg. Faun. Jap.—The bill black; head with the bill 60 mm. long; the superior ear-feathers black. Australia, Asia.

4. *Milvus govinda*, Syk., Proc. Zool. Soc. 1839, 155.—The bill black; before the emarginations of the quills pure white; total colour soot black.

5. *M. regalis*, Briss.; *F. milvus*, Linn., Naum. t. xxxi. pl. enl. 422.—The largest species, in adult age with yellow bill and whitish head; before the emargination of the quills and the middle of the little feathers of the wings, pure white; total colour rufous; tail more forked. Europe, Africa.

e. Subgenus *Gypoictinia*, Kp.—The bill twice as long as high; tarsus on the upper half with transverse scales, and on the lower half with fine little scales; the tail as long as the body and not forked; the first portion of the tail hid by the covers. The *Buteonine* or *Vulturine* type.

M. melanosternon, Kp.; *Buteo melanosternon*, Gould, Birds of Austr. ix. 1.—Face, gorge and breast, black; large like a little eagle. It shows analogies with *Helotarsus*, second genus of *Aquilinæ*. Australia.

III. Subfamily ACCIPITRINÆ.

In this subfamily the typical genus is *Geranopus*, which, with the whole subfamily, represents the *Grallatorial* type, because it has the longest legs and the shortest toes. This subfamily exhibits the shortest wings in the greatest number of the species, and shows a banded plumage.

I. Spiziaëtus. II. Nisus. III. GERANOPUS. *IV. Astur. V. Asturina.*

I. GENUS SPIZIAËTUS, VIEILL. (part) KAUP.

The tarsus covered with feathers. The *Falconine* type.

a. Subgenus *Limnaëtus*, Vig.—The secondaries cover up to ¾ of the quills; 1–6 quills emarginated. The *Falconine* type.

1. *Sp. cirrhatus*, Kp., G. Gray; *F. cirrhatus*, Will., Gmel.; *F. ceylonensis*, Lath.; *F. calligatus*, Raffl.; *F. limnaëtus*, Horsf.,

Temm. pl. col. 134, ♀ juv.; *F. niveus*, Temm., ♀ juv.; *F. cristatellus*, Temm. pl. col. 282, ♂ ad.; *Nisaëtus pulcher, nepalensis et pallidus*. Hodgs.; *Morphnus hastatus*, Less.; *Spizaëtus orientalis*, Temm. and Schleg. Fauna Jap., ♂ young. — The adult bird with a black moustache and a central stripe on the chin; the adult male on the breast, belly, legs and under tail-covers, black or brown banded; the young male beneath, white, with black brown longitudinal spots on the tip of each feather.

The adult female coloured very like the young male, but the spots larger and the crest longer. The very young female without a crest, sometimes uniform soot brown (*limnaëtus*), another time more whitish (*niveus*). Asia and its Archipelago.

b. Subgenus *Lophaëtus*, Kp. — The secondaries cover ⅔ of the quills; bill slender and divided to middle of the eye; 1–5 quill emarginated but not very distinct. The *Milvine* type.

2. *Sp. occipitalis*, G. Gray; *F. occipitalis et senegalensis*, Daud., Vaill. t. ii. — The wings and tail pure white. The soft and woolly plumage shows anologies with *Circus*. Africa.

c. Subgenus *Spiziaëtus*, Kp. — The secondaries cover 2½ of the quills; bill strong; 1–6 quill very distinctly emarginated. The *Accipitrine* type.

3. *Sp. ornatus*, Vieill.; *F. ornatus et mauduÿti*, Daud., Vaill. xxvi.; *F. superbus et coronatus*, Shaw; *Harpyia braccata*, Spix, f. 3, Azara 23. — Beneath white with black bars; the little feathers of the wings black banded. S. America.

4. *Sp. bellicosus*, Kp.; *F. bellicosus*, Daud., Vaill. Ois. d'Afr. i.; *Aquilla bellicosa*, Vieill.; *F. armiger*, Shaw, Smith, Ill. i. 42. — Head with the bill 123 mm. long; beneath white, every feather with a round black spot on the tip. S. Africa.

5. *Sp. coronatus*, Kp.; *F. coronatus*, Linn., A. Smith, Ill. xli.— Head with the bill 106 mm. long; head, neck, and beneath, white. S. Africa.

d. Subgenus *Spiziaster*, Less. — The occiput without a crest; 1–5 quill with a distinct emargination; the secondaries cover half of the quills; middle and hind toes very long; the tail a little forked. The *Aquiline* type.

6. *Sp. atriceps*, Kp.; *F. atricapillus*, Cuv.; Temm. pl. col. 79; *Buteo melanoleucus*, Vieill., Gal. 14.—White, with black lorum and eye region; the occiput black; back and wings black. S. America.

e. Subgenus *Pternura*, Kp. — The tail longer than the body; 1–6 quill slender emarginated. The *Buteonine* type.

7. *Sp. tyrannus*, Kp.; *F. tyrannus*, Pr. Max. pl. col. 73. — Black or black brown, with white tail-covers; the tail 346 mm. long. S. America.

II. GENUS NISUS, CUV. ACCIPITER, BRISS. ET ANGLICOR.

The tarsus is long and slender, with twelve or thirteen indistinct transverse scales before and behind; the external toe longer than the internal. This genus has the smallest forms in the whole subfamily. The *Milvine* type.

a. Subgenus *Hiëraspizia*, Kp. — The secondaries cover ¾ of the quills; the eye region naked; 1–4 quill emarginated; the inner wings banded, and the tail with three or four bars. The *Falconine* type with the smallest forms.

1. *N. vel. Acc. tinas*, G. Gray; *F. tinus*, Lath.; *Acc. tinus*, Gen. of Birds, with an excellent fig.; *F. superciliosus*, Linn. — Breast and beneath with fine bands. S. America

2. *N. vel. Acc. minullus*, Cuv.; *F. minullus*, Shaw, Daud., Vaill. xxxiv. — Tail with three white bars, which shine through on the surface; the least upper tail-covers white, black banded, with broad white margin. S. Africa.

3. *N. vel. Acc. virgatus*, Cuv.; *F. virgatus*, Reinw.; Temm. pl. col. 109. — Chin white, with a central black stripe and moustaches. Asia.

b. Subgenus *Tachyspizia*, Kp. — The secondaries cover 2½ of the quills; 1–4 quill not distinctly emarginated; middle toe as long as the scaled part of the tarsus; bill with a circular formed tooth. The *Milvine* type.

4. *N. soloensis*, Kp.; *F. soloensis*, Horsf.; *F. cuculoides*, Temm. pl. col. 110, 119. — The adult bird with black wings; on the upper parts pure white; beneath whitish and wine red. Asia.

c. Subgenus *Scelospizia*, Kp. — Tarsus very long; middle toe short; 1–4 quill emarginated; the inferior part of the wings banded; the tail with four or five bars. The *Accipitrine* type.

5. *N. vel. Acc. francessi*, A. Smith, Ill. of S. Afr. — Tarsus 46–49; middle toe 23–26 mm. long. Madagascar.

d. Subgenus *Nisus*, Kp. — The bill without a circular formed tooth; 1–5 quill distinctly emarginated; the nostrils covered with bristle-feathers; the interior web of the quill banded, and the tail with 4–6 bars; chin and under tail-covers white; the middle toe very long. The *Aquiline* type. This subgenus shows more than five species, because some species are subspecies, climatic varieties, or races of another species.

$6^{(a)}$. *Nisus exilis; F. exilis*, Temm. pl. col. 496; *N. perspicillaris*, Rüpp. neue Wirbelth, 18, 1, ♀; *Acc. rufiventris*, A. Smith, Ill. S. Af.—Beneath and under wing-covers rufous. Africa.

$6^{(b)}$. *Nisus fringillarius; N. communis*, Cuv.; *F. nisus*, Linn., Naum. t. 19, 20; *Acc. fringillarius*, Briss.—Beneath rufous or blackish banded; the adult female beneath with blackish bars; the male with a tail slightly forked. Europe, N. Africa.

$6^{(c)}$. *Nisus madagascariensis*, Verreaux, Quart. Journ. S. Afr. Inst., p. 80.—Tail with five, and on the external feathers with seven or eight black bars.

$6^{(d)}$. *Nisus fuscus; F. fuscus*, Gmel.; *F. velox et pennsylvanicus*, Wils. xlvi. 1, pl. col. 67, young.—The male very like *fringillarius*, tail slightly forked; the larger female with oblong spots on the lower parts, like a young *Astur palumbarius*. North America.

$6^{(e)}$. *Nisus vel. Acc. erythronemius*, G. Gray.—Large like *fringillarius*, with rufous tibial feathers; beneath, white; every feather with 3–5 bars, and blackish shafts. Bolivia, British Museum.

7. *Nisus tachiro*, Cuv., Vaill. t. 24, young; *Acc. polyzonus*, A. Smith, Ill. S. Africa ♀; *Astur unduliventer*, Rüpp., neue Wirbelth, t. xvii. 1, ♀, col. 377, young.—Beneath with a great number of bars; tarsus 60–63 mm. long. Africa.

8. *Nisus pileatus*, Cuv.; *F. pileatus*, Pr. Max.; Temm. pl. col. 205, ♂ ad. *F. beskii*, Licht. ♀ young; *F. cooperi*, Bonap. Am. Orn., pl. x. 1, ♀ young.—Tarsus 58–67; middle toe 36–45 mm. long; the adult bird beneath clear ash coloured. S. America, very rare in N. America.

e. Subgenus *Urospizia*, Kp.—The secondaries cover more than $\frac{2}{3}$ of the quills; 1–5 quill emarginated; the tail as long as the body, and with 14–19 small bars; the middle toe shorter than the scaled part of the tarsus. Australia.

9. *Nisus torquatus*, Cuv. xliii. 93.—Size of *N. fringillarius*, tail small, forked, with fourteen or fifteen bars.

10. *N. cruentus*, Kp.; *Astur cruentus*, Gould, Birds of Austr.—Size of *N. pileatus*; tarsus 70–72 mm. long; tail with fifteen bars.

11. *N. approximans*, Kp.; *Astur approximans*, Vig. and Horsf.; *Ast. radiatus et fasciatus*, Vig. and Horsf.; *F. radiatus*, pl. col. 123, young, Gould, Birds of Austr.—Size of a male of *Ast. palumbarius;* tarsus 72–83 mm.; middle toe 36–45 mm. long; tail with 14–19 bars.

III. GENUS GERANOPUS, KAUP.

ISCHNOSCELIS, Strickl. (employed).

The exterior toe shorter than the interior; 1–5 quill emarginated. The *Accipitrine* or *Grallatorial* type.

1. *G. gracilis*, Kp.; *F. gracilis et hemidactylus*, Temm. pl. col. 3, 91.—Slender like *Circus cyaneus*. S. America.

IV. GENUS ASTUR, BECHST.

The tarsus larger, more robust, and the transverse scales more distinct than *Nisus*; the external toe longer than the internal; the bill shorter and more curved than *Austurina*.

a. Subgenus *Lophospizia*, Kp.—Occiput like *Spiziaëtus* with a little crest; the secondaries cover the quills $\frac{3}{4}$; tarsus feathered to the middle; toes before the claws with three or four transverse scales.

1. *A. trivirgatus*, G. Gray; *F. trivirgatus*, pl. col. 303; *Ast. indicus*, Hodgs.—Lower part of the breast, belly, and the tibial feathers with broad bars. This species has anologies with *Sp. cirrhatus*. India and its Archipelago.

b. Subgenus *Micronisus*, G. Gray.—Occiput without a crest; the secondaries cover $\frac{2}{3}$ of the quills; 1–4 quill emarginated; tarsus and toes short; middle toe as long as the scaled part of the tarsus. The *Milvine* type. This subgenus shows analogies with *Nisus*.

2. *A. monogrammicus*, Sw. W. Afr. Birds, t. iv.; *F. monogrammicus*, Temm. pl. col. 314.—Chin with a central longitudinal black

stripe; tail with the base and band before the tip white; with little scales on the tarsus and toes. W. Africa.

3. *A. rüppellii*, Kp.; *Nisus sphenurus*, Rüpp., Syt. ueb. t. ii. ♂ ad.; *Accipiter brachydactylus*, Swains. W. Afr. Birds, p. 118; *Acc. polyzonoides*, A. Smith, Ill. of S. Af. Africa.

4. *A. gabar*, Kp., Vaill. xxxiii.; *Sparvius niger*, Vieill., Gal. pl. 22, *var nigra; F. banksii*, Temm.; *Acc. erythrorhyncha*, Sw. W. Afr. Birds, p. 121.—Cinereous; paler on the chin, throat, and breast; body, thighs, and inner wing-covers, white, with numerous blackish bands; upper tail-covers white. It has in the plumage anologies with *F. musicus (meliërax)*. Africa.

5. *A. badius*, Kp.; *F. badius*, Gmel.; *F. dussumieri*, Temm. pl. col. 308, 336; *F. manilensis*, Mey.—Tarsus 48–57 mm. long; beneath with numerous rufous bands. Asia.

c. Subgenus *Meliërax*, G. Gray.—The middle toe without claws, the third the length of the tarsus. The *Accipitrine* type. It shows analogies with *Geranopus*.

6. *A. musicus*, Kp.; *F. musicus*, Vaill. 2 f. *Nisus polyzonus*, Rüpp. Fauna Abys. t. xv. 1, ♂.—Tarsus 76–108 mm. long; middle toe 37–48 mm. long. Africa.

d. Subgenus *Astur*, Bechst. — The secondaries cover near $\frac{1}{3}$ of the quills; middle toe a little longer than the scaled part of tarsus. All the species large and robust. The *Aquiline* type.

7. *A. testaceus*, Kp.; *F. testaceus*, var. ε. Lath.; *radiatus*, Lath., Gould, Birds of Austr. xiii. 2; *Haliaëtus colei*, Vig. and Horsf., Linn. Tr. xv. 186.—Middle toe 55–69 mm. long; black brown, with rufous marginated feathers. Asia, Australia.

8. *A. smithii*, Kp.; *Acc. melanoleucus*, A. Smith, Ill. of S. Af. Zool. 18; *Astur melanoleucus*, Herz. Paul. v. Wurtemb. — Black and white. Africa.

9. *A. palumbarius*, Bechst.; *F. palumbarius*, Linn.; pl. enl. 1408, Naum. 17, 18. The adult bird, beneath, with numerous black bands. Europe, Asia, Africa.

9(a). *A. atricapillus; F. atricapillus*, Wils. vi. 52, 3; *regalis*, Temm. pl. col. 495.—A little larger than the European *A. palumbarius*, and beneath with a greater number of bands.

10. *A. unicinctus*, Kp.; *F. unicinctus*, Temm. pl. col. 313; *Buteo harrisii*, Aud.—The little feathers of the wings, the inferior wing-covers, and the tibial feathers, rufous. America.

10(a). *A. (unicinctus) galapagöensis; Craxirex galapagöensis*, Gould.—The small quill-feathers black, a little larger. Falkland Islands and the Strait of Magellan.

e. Subgenus *Leucospizia*, Kp.—With arched cere and very high bill. Middle toe shorter than the scaled part of the tarsus. The *Buteonine* type.

11. *A. novæ hollandiae*, Vig. and Horsf.; *Falco n. holl.*, Gmel., Gould, Birds of Austr. xii. 1, 2.—White.

11(a). *A. (n. holl.) raii*, Vig. and Horsf.—Clear gray; beneath white, with banded breast and belly. Australia.

V. Genus ASTURINA, Kaup.

The bill more straight and elongated; the tarsus with distinct transverse scales; toes short; outer toe a little longer than the inner. All the species peculiar to S. America. The *Buteonine* type in its subfamily.

a. Subgenus *Asturina*, Vieill.—The tarsus short, half feathered; neck without a crest; large like *Buteo;* eye-region more naked. The *Falconine* type.

1. *A. poliogaster*, Kp.; *F. poliogaster*, Natt.; pl. col. 264, ad., 265, young.—Long 16½–17½″; tail with 3-5 white bars.

2. *A. leucorrhoa*, Kp.; *F. leucorrhous*, Quoy. and Gaim., Uran. pl. 13.—Black, with white tail-covers; tail with 2 bands in the middle.

3. *A. nitida*, Kp.; *F. nitidus*, Lath.; *F. striolatus*, Temm. pl. col. 87 (ad.) 294, young; *Asturina cinerea*, Vieill. Gal. 20; *Astur nitidus*, D'Orbig.—Long 16–17″; tail black with a white band; young with 3 above and 5 on the underside.

4. *A. albifrons*, Kp., Mus. Frankfort.—Above black; the front and beneath, pure white.

b. Subgenus *Morphnus* (part), Cuv.—The nostrils high, placed on the cere, and form a slit like *Pernis;* tarsus very high and slender; occiput with a crest, large like an eagle. The *Milvine* type.

5. *A. guianensis*, Kp.; *F. guianensis*, Daud.—Tarsus 91–101 mm. long; it has analogies in the plumage with the *Milvinæ* and *Strigidæ*.

c. Subgenus *Rupornis*, Kp. — Occiput without a crest; tarsus very high; middle toe shorter than the tarsus; tarsus and toes with transverse scales; 1-5 quills emarginated. The *Accipitrine* type.

6. *A. magnirostris*, Kp.; *F. magnirostris*, Gmel.; pl. enl. 464; pl. col. 86, young; *Astur magnirostis*, G. Gray; *F. insectivorus*, Spix, t. viii. L'Indayé Azara, N. 30. — Large like a female *N. fringillarius*.

7. *A. meridionalis*, Kp.; *F. meridionalis*, Lath., Gmel.; *Circus rufulus*, Vieill. Enc. 1216; *F. rutilans*, Licht.; pl. col. 25; *Aquila buson*, Spix, Aves, Br. N. 3; Azara, N. 11. — Large like *Circus æruginosus*; rufous beneath with black bars.

8. *A. urubitinga*, Kp.; *F. urubitinga*, Gmel.; *Aq. urubitinga*, Spix, t. i. ad.; *picta*, Spix, young; pl. col. 55, young; Azara, N. 17, 18, 20. — Tarsus 120–125 mm. long; the adult bird black.

9. *A. æquinoctialis*, Kp.; *F. æquinoctialis*, Lath., young; *F. buson*, Daud., Vaill. 21; *Circaëtus solitarius*, Tchud. i. (ad.)—Tarsus 34–94 mm. long; the adult bird black.

d. Subgenus *Thrasaëtus*, G. Gray. — The bill very large and strong; the nostrils placed under the middle of the cere; tarsus very robust with small scales; claws very strong, and the interior and hind claw greater than the toes; wings short, and the secondaries cover the greatest part of the quills. The *Aquiline* type.

10. *A. harpyia*, Kp.; *Vultur harpyia*, Linn.; *F. destructor*, Daud.; pl. col. 14; *F. imperialis, calquin et regalis*, Shaw. — Ash-gray with a black breast-shield.

11. *A. azaræ*, Kp.; *F. coronatus*, Azara, Temm. pl. col. 234; *Haliaëtus unifasciatus*, G. Gray, Brit. Mus.—Beneath ash-gray; tail with a 2″ broad terminal band.

e. Subgenus *Leucopternis*, Kp.—Large like *Buteo;* the bill more slender; the wings short, 1-5 quill emarginated; tarsus moderately high; middle toe twice shorter than the tarsus; occiput without a crest; head, neck, and beneath, pure white. The *Buteonine* type.

12. *A. melanops*, Kp.; *F. melanops*, Lath.; pl. col. 105.—Lorum and eye region black; head and neck with black longitudinal stripe; wings very short, not reaching to the upper tail-covers.

13. *A. albicollis*, Kp.; *F. albicollis*, Lath.; *F. picatus*, Shaw. —Tail white, with a 3″ broad terminal band; body white.

14. *A. scotoptera*, Kp.; *F. scotopterus*, Pr. Max. Beitr. iii. 204; *F. lacernulatus*, Temm. pl. col. 437.—Wings uniform ash-gray, without a black eye-region; tarsus 78 mm. long.

15. *A. polionotus*, G. Gray; *Buteo melanotus*, Vieill.?—Tail with a 3″ broad terminal band; wings and body dark ash-gray.

IV. Subfamily Aquilinæ.

Pandion is the typical genus in this subfamily, which with the whole subfamily represents the *Pelicanidæ*, because this genus feeds only on fish, and shows the most curved claws.

I. Aquila. II. Helotarsus. III. Circaëtus. IV. Pandion.
V. Haliaëtus.

I. Genus AQUILA, Nov. Auct.

The tarsus wholly feathered. The *Falconine* type.

a. Subgenus *Hieraëtus*, Kp.—The bill more curved; 1-6 quill emarginated, large like a *Buteo*. The *Falconine* type.

1. *Aq. morphnoides*, Gould, Birds of Austr. vii. 2.—The feathers of the occiput form a small crest. Australia.

2. *Aq. pennata*, Cuv.; *F. pennatus*, Gmel.; pl. col. 33; *F. minuta*, Brehm.—Without a crest. Eastern Europe, Africa, Asia.

b. Subgenus *Pteroäetus*, Kp.—Lorum and eye-region naked; 1-5 quill emarginated; claws very strong and curved; the first feather of the tail a little shorter than the middle feather. The *Milvine* type.

3. *Aq. vulturina*, G. Gray; *F. vulturinus*, Daud.; Vaill. 6; *A. verreauxii*, Less. Cent. Zool. f. 38.—Size of *Aq. fulva*; entire colour black. Africa.

c. Subgenus *Onychaëtus*, Kp.—Exterior toe very short, with a short claw; the claws long like a spur. The *Accipitrine* type.

4. *A. malayensis*, G. Gray; *Falco malayensis*, Reinw.; pl. col. 117.—Black-brown, size of *Aq. nævia*. India and Indian Archipelago.

d. Subgenus *Aquila*, Kp.—Bill more strait and moderately high;

1-6 quill emarginated; exterior toe longer than the interior; tail a little cuneiform. The *Aquiline* type.

5. *Aq. nævioides*, Cuv.; *Aq. næv. et senegalla*, Cuv.; *F. rapax*, Temm. pl. col. 455; *Aq. albicans*, Rüpp. 13, 1, 2; *A. fulvescens, fusca, punctata*, J. E. Gray; *Aq. vindhiana*, Frankl.—Bill with an obtuse tooth; on the cere 26 mm. high; middle toe 58 mm. long; tail 270 mm. or 13½″ long. Asia, Africa.

6. *Aq. heliaca*, Sav. Descr. d'Eg. t. 12; *F. imperialis*, Bechst., Naum. t. 6, ad., t. 7, young; *F. bifasciata*, J. Gray, Ind. Zool.—The bill divided to the hind corner of the eyes; wings longer than the short tail; middle toe with 5 scales before the claws. Eastern Europe, Asia, Africa.

7. *Aq. bonelli*, Bon.; *F. bonelli*, Temm. pl. col. 288; *Aq. intermedia*, Bonelli; *A. fasciata*, Vieill; *Spizaëtus grandis*, Hodgs.—Middle toe 62 mm. long; beneath with black longitudinal spots. S. Europe, Asia.

8. *Aq. fulva*, Cuv.; *F. fulvus, chrysaëtus, melanaëtus, et canadensis*, L.; *F. niger*, Gmel., Naum. 8, 9.—Tail 13-13½″ long. Europe, America, Asia, Africa.

e. Subgenus *Uroaëtus*, Kp.—The bill very high, tail very long; the first tail-feather one-third shorter than the middle one. The *Buteonine* or *Vulturine* type.

9. *A. audax*, G. Gray; *F. audax*, Lath.; *Aq. fucosa*, Cuv.; pl. col. 32; *Aq. albirostris*, Vieill.—Tail 14½-15½″ long. We see analogies with the *H. pelagicus*, which is in its genus the same representative of the same type. Australia.

II. Genus HELOTARSUS, A. Smith.

The very long wings extend beyond the very short tail. The *Milvine* or Swallow type.

1. *H. ecaudatus*, G. Gray; *F. ecaudatus*, Daud., Vieill. 7, 8.—Black with rufous body, tail-covers and tail. Africa.

III. Genus CIRCAËTUS, Kaup.

The middle toe shorter than the tarsus, covered with small scales. The *Accipitrine* or *Grallatorial* type.

a. Subgenus *Herpetotheres*, Vieill.— The compressed bill curved like *Falco;* ear with a distinct facial disk like *Circus*. S. America. The *Falconine* type.

1. *Circaëtus cachinnans*, Kp.; *F. cachinnans*, Linn., Spix, t. 3, ad., Azara, 15; *Herpetoth. cachinnans*, Vieill.—The head-feathers elongated; tarsus 55-57 mm. long.

2. *C. brachypterus*, Kp.; *F. brachypterus*, Temm. pl. col. 141, 116; *Sparv. semitorquatus et leucomelas*, Vieill., Azara, N. 28, 29.—White necked Falcon, Lath. Longer than *cachinnans*; tarsus 81-85 mm. long.

3. *C. xanthothorax*, Kp.; *F. xanthothorax* (ad.) *et leucauchen* (young), Temm. pl. col. 92, 306.— Tail with 4 white bands; tarsus 55-60 mm. long.

4. *C. concentricus*, Kp.; *F. concentricus*, Ill.— Large like a female *N. fringillarius;* beneath with a great number of bars, and 2-3 white tail-bands.

b. Subgenus *Gymnogenys*, Less.— Head very small; wings very long; tarsus slender like a *Circus;* the face naked. The *Milvine* type.

5. *C. radiatus*, Kp.; *Vultur radiatus*, Scop.; *F. madagascariensis*, Lath., Gmel.; *F. gymnogenys*, Temm. pl. col. 307.—Tarsus 89; middle toe 40; external toe 25; internal 29 mm. long. Dr. Smith thinks that the *Polyboroides typus* of the Cape is very different from the *radiatus* of Madagascar. I have no opportunity to compare them.

c. Subgenus *Spilornis*, G. Gray.— The wings extend to the middle of the long tail; middle toe twice shorter than the tarsus, the claws edged. The *Accipitrine* type.

6. *Circaëtus cheela*, Kp.; *F. cheela*, Lath.; *F. bacha*, Daud., Vaill. 15; *albidus*, Cuv.; pl. col. 19; *bido*, Horsf.— Breast and crop ash-brown without spots and bands; lower breast, belly, tibial feathers and under tail-covers, with 3–4 pairs of white round spots. Africa and Asia.

7. *C. holospilus*, Kp.; *Buteo holospilus*, Vig. — Beneath with a great number of white spots; black bordered, without black bars. Asia.

8. *C. undulatus*, Kp.; *Hæmatornis undulatus*, Vig.; *Circ. nepalensis*, Hodgs.— Beneath with numerous black bars and small white spots.

9 *C. fasciolatus*, Kp. (Brit. Mus.) — Neck-feathers pointed; lower breast, belly, and tibial feathers white, with ash-gray rufous broad bars. Port Natal.

d. Subgenus *Circaëtus*, Vieill. — The wings extend beyond the tip of the tail; eye-region with fine down; 1–3 quill very distinctly emarginated. The *Aquiline* type.

10. *C. gallicus*, G. Gray; *F. gallicus*, Gmel.; pl. enl. 413; *Aq. brachydactyla*, Mey.; *F. leucopsis*, Bechst.; *ferox*, Gmel.—Above and breast clear brown; beneath white, with clear brown bands. S. Europe, Africa, Asia.

11. *C. thoracicus*, Cuv.; *pectoralis*, A. Smith. — Breast with a black shield. Dr. Smith describes the young bird soot-black like *C. funereus*. Africa.

12. *C. funereus*, Rüpp.; *cinereus*, Vieill. Gal. 12. — Uniform soot-black, with a higher bill than the *C. thoracicus*. Africa.

e. Subgenus *Poliornis*, Kp., G. Gray.—Tarsus with large scales; the toes with 3-4 transverse scales; large like small *Buteones*. The *Buteonine* type. Asia.

13. *C. teesa*, Kp.; *Buteo teesa*, J. Gray, Ind. Zool.; *Astur hyder*, Syk.; *Juggar falcon*, Lath. — Chin white, with a central oblong stripe; breadth between the eyes 30 mm.

14. *C. liventer*, Kp.; *F. liventer*, col. 438; *Buteo pallidus*, Less. —Tail rufous, with seven black bars; inner webs of the quill rufous brown, with 3-6 black bands.

15. *C. indicus*, Kp.; *F. indicus*, Lath.; *poliogenys*, Temm. pl. col. 325.—Breast and beneath with bars; between the eyes 39 mm. broad.

16. *C. pyrrhogenys*, Kp.; *Buteo pyrrhogenys*, Temm. et Schleg., Fauna Jap. p. 21.—Between the eyes 30 mm. broad; tail like an *Astur*, with three black broad bars before the black white-bordered terminal band.

IV. GENUS PANDION, SAV.

The claws curved in a circle.

a. Subgenus *polioaëtus*, Kp.—Tarsus and toes with large transverse scales; wings short. The *Falconine* or *Buteonine* type. Asia.

1. *P. ichthyaëtus*, *F. ichthyaëtus*, Horsf.; *Haliaëtus plumbeus*, Hodgs.; *Ichthyaëtus bicolor*, G. Gray. — Head and bill 95; tarsus 80; tail 243 mm. long.

2. *P. humilis*, Mull. Zool. t. 6. — Head and bill 82; tarsus 68; tail 192 mm. long.

b. Subgenus *Pandion*, Sav.—Tarsus and toes with pointed scales; wings very long.

3. *P. gouldii*, Kp.; *P. leucocephalus*, Gould, Birds of Austr. xiii. 1. — Two to three transverse scales before the claws; only the inner webs of the superior part of the tail-feathers, with six toothed white bands, do not extend to the shaft. Australia.

4. *P. haliaëtus*, Cuv.; *F. haliaëtus*, Sav., Naum. t. 16; *P. fluviatilis*, Sav. — Four transverse scales before the claws; tail with six black bars, extending over both the webs. Europe, Africa, Asia.

V. GENUS HALIAËTUS, SAV.

The non-feathered part of the tarsus, and the long toes, with transverse regular scales. The *Buteonine* or *Vulturine* type.

a. Subgenus *Haliaëtus*, Kp. — Larger than *Aq. fulva;* tarsus feathered to the middle; bill of medium height; tail not remarkably long. The *Falconine* type.

1. *H. leucocephalus*, Sav.; *F. leucocephalus*, Linn., Wils. iv. 36, vii. 55, 2. — Adult with a pure white head, neck, and tail. N. America.

2. *H. albicilla*, Pall; *H. nisus*, Sav.; *F. albicilla et ossifraga*, L., Naum. t. 12–14. — Adult with clear brownish head and a white tail. Europe, Asia, Africa.

b. Subgenus *Ictinoäetus*, Kp. — Large like a *Milvus;* tarsus a third part feathered. The *Milvine* type.

3. *H. ponticerianus*, Cuv.; *F. ponticerianus*, Gmel.; pl. enl. 416; *H. girrenera*, Vieill.; *H. garuda*, Less.; *F. indus*, Bodd. — Tail shorter than the body; adult with black shafts on the white plumage. India.

3(a). *H. leucosternus*, Gould, Birds of Austr.—The white plumage with white shafts. Australia.

4. *H. canorus*, Vig. and Horsf. Linn. Tr. xiii. 136; *Milvus*

sphenurus, Vieill. Gal. 15. — Tail longer than the body. Australia.

c. Subgenus *Heteroaëtus*, Kp. — Tarsus high; toes very short; wings shorter than the tail; the sole of the toes with obtuse warts; the plumage banded. The *Accipitrine* type.

5. *H. aguia*, Kp.; *F. aguia*, Temm. pl. col. 302; *Spiz. melanoleucus*, Vieill.; Azara, N. 8; *Spiz. fuscescens*, Vieill.; Azara, N. 9, young. — Above and the crop dark gray; wings and beneath with a great number blackish gray bands. This species has a great many analogies with *Buteo erythronotus*, which represents in its genus and subgenus the same type. S. America.

d. Subgenus *Pontoaëtus*, Kp., G. Gray. — Tarsus high, with the third part feathered, and long middle toe; 1-5 quill with a slender emargination. The *Aquiline* or *Pandion* type.

6. *H. leucogaster*, *F. leucogaster*, Gmel.; pl. col. 49; *Blagre*, Vaill. 5; *H. spenurus*, Gould, Birds of Austr. ii. 1. — The middle feathers of the tail considerably longer than the first. Africa, Asia, Australia.

7. *H. macei*, Cuv.; pl. col. 8, 223; *Aq. leucorypha*, Pall.; *H. fulviventer*, Vieill.; *H. (cucuma) albipes*, Hodgs. — The occiput with long, small, and pointed feathers; the adult bird with white tail, having broad black terminal band. Asia.

8. *H. vocifer*, Cuv., Vaill. 4; *F. vocifer*, Daud., Lath. — White, with rufous belly, tibial feathers, inferior tail-covers and inferior wing-covers. Africa.

e Subgenus *Thalassaëtus*, Kp. — With a very high bill, short wings and remarkably long tail; tarsus half feathered. The *Buteonine* or true *Vulturine* type.

9. *H. pelagicus*, Temm. et Schleg. Fauna Jap., young, Kittliz, Icones ad.; *F. leucopterus*, Temm. pl. col. 489. — Front, superior part of the wings, beneath and tail, white, ad.; the tarsus covered with small scales. Asia.

V. And last Subfamily, BUTEONINÆ.

In this last subfamily, *Ibicter* is the typical genus, which with the whole subfamily, represents the *Gallinaceous* or *Vulturine* type, on account of the face and chin being naked, and because in this subfamily fruit-eaters appear. In this subfamily, particularly in the last genus, *Ibicter*, we see the impurest character of the whole family.

I. Buteo. *II. Pernis.* *III. Polyborus.* *IV. Rostrhamus.* *V.* IBICTER.

I. GENUS BUTEO, BECHST.

The nostrils half-moon shaped, on the end of a soft membrane.

a. Subgenus *Archibuteo*, Brehm.—Tarsus feathered but not the sole; toes with scales before the claws; 3-4 transverse scales. The *Falconine* type.

1. *B. lagopus*, Bechst.; *F. lagopus*, Brann.; Naum. t. 34; Vaill. 18.—Tarsus 64–66 mm. long; the inner-covers of the wings white and rufous-yellow, with large black spots. N. Europe, S. and. N. Africa.

2. *Buteo sancti johannis*, Bonap.; *F. sancti johannis*, Gmel.; *F. niger et lagopus*, Wils. 55-1, ad., 33-1, young; *Buteo ater*, Vieill.; *Archibuteo regalis*, G. Gray ? female.—Tarsus 86 mm. long; tail 230 mm. long, female. America.

3. *Buteo strophiatus*, Kp.; *Aq. strophiata*, Hodgs.; *Buteo leucocephalus*, Hodgs.; *Buteo hemilasius*, Temm. et Schl. Fauna Jap, t. vii.—Large like an *Aquila nævia*; tarsus 93; tail 256 mm. long. Asia.

b. Subgenus *Tachytriorchis*, Kp.—The long wings extend beyond the tip of the tail; 1-2 quill distinct, 3 and 4 slender emarginated. The *Milvine* type.

4. *Buteo albonotatus*, G. Gray.—Black with concealed white spots, which on the general plumage shine through. S. America.

5. *Buteo pterocles*, Cuv.; pl. col. 56, 139; *Buteo albicaudatus*, Vieill.; *Spiz. leucurus*, Vieill.; *Aq. cola blanca*, Azara.—Black, with rufous spots on the wings; tail on the upper half white with fine gray bands; tarsus 91–92 mm. long. S. America.

c. Subgenus *Pœcilopternis*, Kp.—The short wings extend to the middle of the tail; 1-3 quill distinct, 4 slender emarginated. The *Accipitrine* type. America.

6. *B. wilsonii*, Bonap.; *F. pensÿlvanicus*, Wils. 54-1; *F. latissi-*

mus, Ord; *Sparv. platypterus*, Vieill.—Head and bill 65, and the scaled part of the tarsus 36 mm. long. N. America.

7. *Buteo lineatus*, Jard.; *F. lineatus*, Gmel.; Wils, 53-2; *hiemalis*, Wils. 35-1, young.—The wings 332 mm. long. N. America.

8. *Buteo erythronotus*, G. Gray; *Haliaëtus erythronotus*, King; *Buteo unicolor et tricolor*, D'Orb.; *varius*, young, Gould.—The wings 398-429; tail 190–196 mm. long. Chili, Falkland Islands, Strait of Magellan.

9. *Buteo infulatus*, Kp., Brit. Mus.—The wings 364; tail 200; tarsus 80, middle toe 35 mm. long; front white. A young bird, and nearly connected to the *B. lineatus.* Galapagos Islands.

10. *Buteo borealis*, Swains.; *F. borealis et jamaicensis*, Gmel.; Wils. 52-2, ad.; *F. leverianus*, Wils. 52-1, young; *F. ferrugineocauda*, Vieill. Ois. d'Am. t. 6; *B. americanus*, Vieill.; *Accipiter ruficaudus*, Vieill. Ois. d'Am. t. 44, bis.—The wings 375; tail 235; tarsus 80 mm. long. N. America.

d. Subgenus *Ichthyoborus*, Kp.—The bill a little elevated; 1-5 quills slenderly emarginated; toes with distinct transverse scales; sole of the toes with pointed warts (a fisher). The *Aquiline* or *Pandion* and *Pelicanoid* type.

11. *Buteo nigricollis*, Kp.; *F. nigricollis*, Lath.; *F. busarellus*, Daud.; Vaill, 20; *Circus leucocephalus*, Vieill; Azara, N. 13; *Aq. milvoides*, Spix, 1 ad.—The total plumage rufous. S. America.

e. Subgenus *Buteo*, Kp.—Tarsus before and behind with transverse scales; the wings extend to the tip of the tail; 1–4 quill distinctly emarginated; the sole of the toes with obtuse warts The *Buteonine* type.

12. *Buteo augur*, Rüpp.; *B. augur et hydrophilus*, Rüpp., Neue Wirbelth, t. 16, 17.—Adult, tail rufous, with a black terminal band; the secondaries ash-gray, with black bars; tarsus (female) 90, middle toe 40 mm. long. Very nearly connected with the *B. jackal* of the Cape. N. Africa.

13. *Buteo jackal*, Cuv.; Vaill. 16.—Plumage black, white, and rufous; tail rufous, with black terminal band; secondaries ash-coloured, with dark spots and black terminal band; tarsus 80–89; middle toe 42–43; tail 190–196 mm. long. Cape.

14. *Buteo rufinus*, Rüpp. Fauna Ab.; *B. longipes*, Jard.—Middle toe shorter than the scaled part of the tarsus. Asia, accidental in Africa.

15. *Buteo vulgaris*, Bechst.; *F. buteo*, Linn., Naum. 32, 33; *F. communis, versicolor, albidus*, Gmel.; *Buteo mutans et faciatus*, Vieill.; *F. tachardus*, Daud., Vaill. 19.—The quills brownish, with indistinct blackish bars; tail with 12 bands; tarsus 71–77, middle toe 35–37; wings 360–400; tail 210–220 mm. long. Europe, Africa, Asia.

16. *Buteo plumipes*, G. Gray; *Circus plumipes*, Hodgs.—Soot-black; tarsus 44 mm. long, feathered. Asia.

II. GENUS PERNIS, KAUP.

The nostrils form a small fissure, tarsus short, with small scales. The *Milvine* type.

a. Subgenus *Baza sive Hyptiopus*, Hodgs.; *Aviceda*, Swains.; *Lophotes*, Less.—Two fine teeth on the upper mandible, and two or three emarginations on the under mandible; occiput crested. The *Falconine* type.

1. *Pernis lophotes*, Kp.; *F. lophotes*, Cuv.; pl. col. 10.—Wings and tail without bars; the smallest species. Asia.

2. *Pernis subcristatus*, Kp.; *Lepidogenys subcristatus*, Gould, Proc. 1837, Birds of Austr.; *F. reinwardtii*, Temm. Verh. tab. 1-5, fig. 2 mas., fig. 1 fem.—Above ash-gray; crest on the superior middle white; lower breast, belly and flanks, banded; inner wing-covers rufous yellowish. Australia and Indian Archipelago.

3. *Pernis crassirostris*, Kp.; *Baza magnirostris*, G. Gray.—Above black-brown; crest black on the tip, bordered with white; beneath barred. Philippine Islands.

4. *Pernis cuculoides*, Kp.; *Aviceda cuculoides*, Swains. W. Afr. Birds, t. 1.—Above ash-gray; crest on the superior part white; chin, upper-breast, ash-gray; belly and flanks banded; the upper mandible 13 mm. high, allied to *P. subcristatus*. Senegal and Port Natal. Brit. Mus.

b. Subgenus the *Milvine* type is not discovered.

c. Subgenus *Regerhinus*, Kp.—The large bill very compressed, much higher than broad; the nostrils very short; lorum and eye-region naked. The *Accipitrine* type.

5. *Pernis uncinatus*, Kp.; *F. uncinatus*, Ill.; pl. col. 104–115; *Cymindis uncinatus*, Cuv.—Beneath barred. Cayenne.

d. Subgenus *Odontriorchis*, Kp.—The large bill with a tooth. The *Aquiline* type.

6. *Pernis cayennensis*, Kp.; *F. cayennensis*, Gmel.; pl. col. 204–270; *Ast. cyanopus*, Vieill.; *palliatus*, Pr. Max.; *monachus*, Temm.; *Sparv. monachus*, Vieill.—Tail black, with three white or ash-gray bands.

e. Subgenus *Pernis*, Cuv.—Lorum and eye-region with scaly like feathers. The *Buteonine* type.

7. *P. cristata*, Cuv.; *F. ptilorhynchus*, Temm. pl. col. 44.—Hind head with a crest. Asia.

8. *P. apivorus*, Cuv.; *F. apivorus*, Linn., Naum. 35-36.—Without a crest. Europe, Africa.

III. GENUS POLYBORUS, VIEILL. (part) G. GRAY.

The nostrils are placed high on the cere, equally broad, oval, and on the under margin bending inwards in the middle; bored in the nasal-bones; neck and feet very long. The *Accipitrine* type.

1. *P. brasiliensis*, G. Gray; *F. brasiliensis*, Gm.; *Polyb. vulgaris*, Vieill. Gal. 7; *F. plancus*, Mill. Cym.; *plancus*, t. 17; *F. tharus*, Gm. *Chereway* Jacq. The entire plumage numerously banded. S. America.

IV. GENUS ROSTRHAMUS, LESS.

The round nostrils placed in a soft membrane; the middle claw denticulated like the middle claw of *Pelicanus* or *Ardea*. The *Aquiline*, *Pandion*, or *Pelicanoid* type.

1. *R. sociabilis*, D'Orb., Azara, N. 16; *Herpetotheres sociabilis*, Vieill.; *Buteo hamatus*, Vieill.; *F. hamatus*, Ill.; pl. col. 61 ad., 231, young; *Cymindis leucopygos*, Spix, t. ii.; *R. niger*, Less., Lafresn. Mag. de Zool. 1834, pl. 20.—The old bird black, a fisher. S. America.

V. And last GENUS IBICTER, KAUP.

The nostrils round, bored in the nasal bones; bill long, with a trace of a tooth and an emargination on the under mandible. The true *Buteonine* or *Vulturine* type.

a. Subgenus *Daptrius*, Vieill.—The face and chin naked; the wings extend to two-thirds of the body; tail long; 1-5 quills with a slender emargination; middle toe with regular transverse scales, and as long as the scaled part of the tarsus; outer toe a little longer than the inner. The *Falconine* type.

1. *Ibicter aterrimus*, Kp.; *F. aterrimus*, Temm. pl. col. 37, 342, young; *Daptrius ater*, Vieill., Gal. 5.—Black, the superior middle of the tail white. Cayenne.

b. Subgenus *Phalcobaenus*, D'Orb.—The face naked; the wings extend beyond the tip of the tail; 1-4 quill distinctly emarginated. The *Milvine* type.

2. *Ibicter montanus*, Kp.; *Ph. montanus*, D'Orb., Voy. dans l'Am. with a figure; *Aq. megaloptera*, Mey. Nov. Acta, 1834, t. 8; *Milvago albogularis*, Gould, Voy. of Beagle Birds. pl. 1.—White and black; the head-feathers crisp like a *Crax*. Chili.

c. Subgenus *Milvago*, Spix.—Lorum and eye-region naked; the wings extend to two-thirds of the tail; 1-5 quills slenderly emarginated; toes with regular transverse scales, and shorter than the thin tarsus; outer and inner toes of equal length. The *Accipitrine* type.

3. *I. chimachima*, Kp.; *P. chimachima*, Vieill., Azara, 4; *F. degener*, Ill.; *Milv. ohrocephala*, Spix. t. 5, ad.; *Gymnops strigilatus*, Spix, t. 4, young.—Tarsus bluish, and 50 mm. long. S. America.

4. *I. chimango*, Kp.; *P. chimango*, Vieill., Azara, 3; *Aq. pezopora*, Mey. Nov. Act. 16, t. 6.—Tarsus yellowish, and 63 mm. long. S. America.

d. Subgenus *Aëtotriorchis*, Kp.—Lorum and eye-region naked; the wings do not extend to the tip of the tail; 1-5 quill emarginated; middle toe longer than the scaled part of the tarsus, which has before the toes 3-4 transverse scales. The *Aquiline* type.

5. *I. australis*, Kp.; *F. australis*, Lath., Gmel.; *F. leucurus*, Forst. pl. col. 224, young, 129 adult; *Polyborus novæ zeelandiae*, Less.; *F. novæ zeelandiæ*, Lath (part); *Circaëtus antarcticus*, Less.—Size, an eagle. S. America and Australia.

e. Subgenus *Ibicter*, Vieill.—The face and chin naked; wings long but not reaching the tip of the tail; 1-5 quill slenderly emarginated; middle toe irregularly scaled, longer than the scaled part of the tarsus; outer toe long, longer than the inner one. The true *Buteonine*, *Vulturine*, and *Gallinaceous* type.

6. *I. aquilinus*, G. Gray; *F. aquilinus*, Gmel.; pl. enl. 417; *F. nudicollis*, Daud.; *formosus*, Lath.; *I. leucogaster*, Vieill.—Black, with white tibial and under tail-covers. S. America.

NOTES

ON

THE OSTEOLOGY OF SCANSORES.

BY

T. C. EYTON, Esq., F.L.S., F.Z.S., &c.

Mr. G. R. Gray, in his genera of birds, has very properly discarded, from the order *Scansores*, all those birds which have not the power of turning one of the three anterior toes backwards. There is one family, however, which ought to be included in it, I allude to that to which *Turacus* belongs, both on account of it possessing that power, and from a similarity in the Osteology with the rest of that group.

There is one osteological character found in detached genera throughout the group, of which I am not aware of the occurrence in any nearly allied order, the absence or existence only in a rudimentary state of the *Os furcatum*. Among the *Psittacidæ*, this character is found in *Platycercus* and *Psittacula*, among the *Rhamphastidæ* in *Rhamphastos*, among the *Picidæ* in *Psilopogon* and *Megalaima*, and in *Turacus buffonii*, where the branches are not anchylosed together at the point where they approach the sternum. Among the Cuckoos also, that bone is very weak and small. In the above named genera, I have observed this peculiarity in the following species:—*Platycercus brownii*, *erythropterus*, and *icterotis*; *Psittacula passerina*, *Nanodes pusillus*, and *venustus*; *Pezoporus formosus*, *Rhamphastos erythrorynchus*, *Psilopogon pyrolophus*, and in a small *Megalaima* from Java. The nostrils in scansorial birds are invariably divided by a bony septum, which is not generally the case in other orders, with the exception of *Raptores* and *Loxia*, a great depression is observable at the junction of the intermaxillary bone with the cranium, which extends transversely across the upper surface of the skull in the Parrots, Toucans, Touracos, and *Picidæ*, and in some of the Cuckoos, as *Phænicophaus*, down the sides to the nostrils. The palatine bones are broad and well developed; and with the exception of among the Parrots, placed horizontally and truncated, or slightly rounded posteriorly, in the Parrots they are bent downwards between the rami of the lower mandible. In the Parrots and Toucans, the orbits are completely separated by the intermaxillary bone; but in the Woodpeckers, Cuckoos, and Touracos, there is a small orifice between them, varying in size in different species.

The sternum of the whole order, with the exception of the Parrots, has the inferior edge of the keel nearly straight; and in all, the anterior edge or front of the bill, is prolonged beyond the transverse anterior edge of the sternum, or in other words, as far as the anterior point of the manubrial process. The latter peculiarity does not exist, that I am aware of, in other birds. The keel is prolonged in the *Fissirostral* group, but the anterior edge is very much scolloped out, or else the inferior point projects forward; and the edge presents nearly a straight line from that point to the base of the manubrial process. The posterior margin of the sternum, with the exception of in the Parrots, and in *Centropus phasianellus*, has two fissures on each side of the keel. The Parrots have the keel much deeper than other *Scansores;* the inferior edge much rounded up to the point, where it meets the *Os furcatum* when that bone exists. In old Parrots, with the exception of a few species, the posterior margin of the sternum is destitute of fissures or foramina; and where any exist, there is only one of the latter on each side. I have, however, the skeleton of a young *Platycercus zonarius*, which has two large foramina on each side, and which, from some small holes between them and the margin of the sternum, have evidently recently undergone a transition by ossification, from fissures to foramina. It would be very interesting, if collectors, who have the opportunity, would ascertain if such is generally the case among the *Psittacidæ*.

In the contour of the latter, at edges of the sternum, there is not much difference among the *Scansores;* those of Cuckoos, Touracos, and Toucans, are, however, proportionably the shortest, and those of Parrots and Woodpeckers the longest, with the exception of *Psilopogon* and *Megalaima,* in which the sternum varies from the Woodpecker form, and approaches that of the Cuckoos. These genera differ, however, from *Cuculidæ* and *Picidæ,* in having the fissures much deeper. Some genera, of the former family, as *Phænicophaus,* have the internal fissure the largest, which I have not observed to be the case in other families. There is nothing very remarkable in the form of the pelvinal bones in *Scansores,* to distinguish them from other birds, but the different families differ between themselves. In the Parrots, Toucans, and Touracos, the *Os pubis,* at the posterior extremity of the obturator foramen, is not anchylosed to the ischium, while the contrary is the case in the *Picidæ* and Cuckoos, the latter of which have that foramen of very small size.

In the Woodpeckers and Toucans, the anterior portion of the ilium is not united at its upper edge, with the superior vertebral processes; but there are, as it were, two channels, one on each side, formed by the iliac bones and those processes. In the Parrots, these bones meet and are perfectly anchylosed. In the Touraco, although these bones are united above, they are open below, leaving a large longitudinal foramen on each side of the processes, from which there is a depression on each side, running backwards towards the caudal vertebra. *Chalcites,* however, varies from the other Cuckoos, and has a pelvinal structure similar to the Parrots. There is nothing very remarkable in the structure of the legs and wings of scansorial birds, with the exception of the position of the outer toe on each foot, and the twisting backward of the corresponding articulation on the tarsus, which bone is very short and robust in Parrots, and has a very large calcineal canal, perfectly enclosed, which, with the exception of in the Toucan, which has a small one, is wanting in other *Scansores.* The posterior metatarsus, or the metatarsal bone, to which the phalanges of the inner toe are articulated in the Parrots, is short, broad at its articulation with the phalanges, and tapers abruptly to its junction with the tarsus. The *Picidæ* have this bone not nearly so powerful, longer in proportion, but of nearly similar shape. The Touraco has it still longer, somewhat flattened at the tarsal extremity, and slightly twisted on its axis.

The *Coracoids*, in *Scansores*, are more produced anteriorly beyond the glenoid cavity, than is found in other birds; and wherever the vestige of the *Os furcatum* exists, the latter is much expanded and fan-shaped at its extremity, and united for its whole breadth with the inner margin of the *Coracoids*. The ribs are very broad from their vertebral extremities to the posterior process, which is also broad at its junction with the rib, is rather acutely turned upwards, and tapers gradually towards its rounded extremity. The remaining portion of the true and sternal ribs, is more flattened and expanded in the Parrots and Touraco than in the other families of *Scansores*. I now give the numbering of the ribs in the different species that I have examined.

In *Piscus viridis*, the ribs are nine in number, the first anterior one being a false one, or not united to the sternum, and the two posterior ones being devoid of the posterior process.

In *Rhamphastos erythrorhynchus*, the ribs are seven, the first anterior being false, and being also, together with the last posterior, devoid of the usual process.

In the *Turacus buffonii*, *Psilopogon*, and *Megalaima*, the ribs are disposed in the same manner as in the Toucan above mentioned.

All the Cuckoos I have examined, have also the ribs arranged in the same manner; but the two hinder ones are devoid of the posterior process.

The Parrots have nine ribs, but the anterior one is often a mere rudiment. Taking this one, however, into consideration, the two first are false, and without posterior processes, as are also the two hinder ones.

Scansores differ from other birds as regards the vertebral column, chiefly in the caudal portion; and as this is most apparent in the Toucans and in the Woodpeckers, in both of which families the tail forms an important organ, or at all events more important than among the other *Scansores*, it is not improbable, that the same form may be found among other birds, particularly *Dendrocolaptes* and *Anabates*, which, although I regard them as Wrens, use their tails with great effect in supporting themselves during their search for insects on trees.

The Toucan has the power of turning his tail over his back; and, as might be expected, we find a nearly true ball and socket joint, which, in conjunction with the tapering superior vertebral process, enables him to perform this feat.

The Woodpeckers have great motive power in the tail; but the apparatus, although resembling that of the Toucan, is not nearly so perfect.

The terminal joint of the caudal vertebra in the Toucan is broad and much flattened on its lower surface; that joint, in the Parrot, is laterally compressed. The same bone in the Woodpeckers and Cuckoos appears to hold an intermediate station, the bone, at the same time that it is elongated, being compressed and much flattened inferiorly.

The numbering of the vertebræ of those species of *Scansores*, that I have examined, is as follows:—

	Cer.	Dor.	Sac.	Caud.
Rhamphastos erythrorhynchus	12	8	11	7
Plyctolophus galeritus	11	9	11	6
Calyptorhynchus cookii	13	9	11	6
Platycercus zonarius	11	9	11	6
Paleornis columboides	11	9	12	6
Phænicophaus tricolor	11	9	11	6
Coccyzus chrysogaster	11	8	11	6
Psilophogon pyrolophus	11	9	10	7
Turacus buffonii	12	8	11	7

On comparing the above list with the numbering of the vertebræ of other families of birds, it is found on the average, that there are fewer cervical vertebræ than among *Razores*, *Cursores*, *Grallatores*, or *Natatores*, and that the number is about the same in the *Fissirostral* type, and fewer than in *Raptores*. The scelerotic plates are thirteen in *Rhamphastos*, *Psittacus*, and *Turacus*, and twelve in *Phænicophaus*.

It now remains for me to point out what station I conceive the group of scansorial birds, as at present limited, to hold amongst birds in general, and also the relative position of the families composing it. I am aware that many Naturalists are of opinion, that the *Psittacidæ* ought to form a group distinct from *Scansores*, but in other orders of birds, we shall find as great anomalies in anatomical structure as there is between the Parrots and the remainder of *Scansores;* in fact, among *Scansores*, we find an osteological structure differing from that of the other species in the same family. In *Centropus phasianellus*, we have a sternum with the lower edge of the keel curved, and the posterior edge indented with two fissures only, although this bird cannot be placed otherwise than among the Cuckoos, the remainder of its anatomy, as well as its external form agreeing with them, and in the same particulars in which this bird differs from the Cuckoo does it agree with the Parrots.

Some affinity may be supposed to exist between the *Psittacidæ* and the *Raptores;* there is a similar form of bill. The palatine bones in *Circætos brachydactylus* have their lateral edges bent downwards; the sternum of many species is not very dissimilar, and the feet of both are formed for either grasping trees or prey. The bony septum between the eyes is also generally nearly perfect in both. No bones of a Parrot differing in external appearance more than any other, namely, *Strigops*, have as yet been brought to England, but should the skeleton ever be obtained, it will probably throw some additional light upon the arrangement of the group. It is curious, that in the three groups of birds which are generally placed first in an arrangement of the class, we find each including a group without posterior marginal fissures, thus: —

Without Fissures.	With Fissures.
Hawks.	Owls.
Parrots.	Cuckoos, Turacus, and Rhamphastos.
Humming Birds and Swifts.	Goatsuckers and Kingfishers.

On these grounds, therefore, I should be unwilling to separate the parrots from the other *Scansores*, and should arrange the whole group in the following order, beginning the arrangement of birds with the order *Raptores:* —

- Toes placed two and two; septum of the orbits entire; the osfurcatum weak, sometimes wanting; anterior edge of the sternal keel projecting as far as the extremity of the manubrial process............................ **SCANSORES.**
  - Sternum, in old birds, without fissures on the posterior margin, but sometimes with foramina; bill much hooked; tarsi short; edge of the sternal keel arched and deep; ischial bones anchylosed at the upper edge to the superior vertebral process.. **PSITTACIDÆ.**
  - Sternum with two fissures on the posterior margin; keel with its edge straight and narrow; ischial bones not anchylosed to the superior vertebral process.............. ..
    - Last caudal vertebræ laterally compressed, slightly flattened inferiorly, but not elongated; bill of moderate size, curved .... **CUCULIDÆ.**
    - Last caudal vertebræ much flattened inferiorly; bill large and curved .... **RHAMPHASTIDÆ.**
    - Caudal vertebræ elongated; bill pointed.................................... **PICIDÆ.**
  - Upper edge of the ischial bones united to the superior vertebral processes, but with a large foramina on each side ... . **TURACUS.**

There are some exceptions to the general rules, which I have endeavoured to lay down in the foregoing table, which is the case, not only in Ornithology, but in other sciences, particularly in Botany. In following out a general arrangement of birds, I should place the *Raptores* immediately before the *Scansores* and the *Fissirostral* group, for which I have before suggested the name of *Volitores* immediately after them. I think, also, that the Hornbills belong to the *Fissirostral* group, although they have generally been classed with the Crows. They have the same form of foot as in *Halcyon*, the same short tarsi, with the front deeply channelled; the same elongated calcineal process; the same truncated form to the posterior end of the lower mandible; the same deep depression extending from the back part of the orbits and meeting at the occiput; the same strong osseous ridge extending down the sternum, from the junction of the coracoid to the outer edge of the posterior margin of the sternum; the same form of keel to the sternum; the same form of wing, the ulna and radius exceeding the humerus in length by one-third; the same straight scapula; the same form of *Os furcatum;* the same abbreviated *Os pubis*, and the same truncated posterior margin to the pelvis. The skeletons of *Buceros* I possess, are those of large species; it is therefore probable, that some of the smaller and weaker species would present still greater affinities to the Kingfishers.

MEETING

OF THE

BRITISH ASSOCIATION AT EDINBURGH,

JULY 30, 1850.

ORNITHOLOGY OF SECTION D.

In Scotland, Ornithology has not advanced so rapidly of late as in England. In Edinburgh, there are no private collections of any importance; and since the decease of John Wilson the Janitor of the University, as well as the preserver of the objects of Natural History for the Museum, there has been much less interest taken in Zoology by the young men attending the classes. Wilson's stuffing rooms were in the square of the Old College, where he possessed a small collection of neatly mounted specimens of British and Foreign birds; it was rich in the British Game and Birds of Prey, and besides some showy foreign birds set up for attraction, he possessed some of great rarity (such as *Musophaga gigantea*, &c.), which, at the sale of his collection, came into our possession. These rooms, from his official intercourse with the students, were almost always open and were very attractive; and as lessons in preparing animals and birds was one of the Janitor's privileges, there was frequently a large attendance; and many went away, carrying with them the knowledge to prepare, and bearing the seeds of a practical zoology and of a love for nature. The students having these objects constantly before them, often seeing the specimens arrive fresh from the country or from the sea, imbibed an interest, which made them naturalists without their knowing it; some of them are now professors; some men of eminence in science; some of them enlightened travellers; and in one of the papers read before the section, we had an example of skins prepared in a manner remarkable for its success, and illustrated by notes on their habits, of great value. These were by the son of a gentleman, Professor M'Gillivray of Aberdeen, who will well remember Wilson's rooms in the Old College.

Now, the stuffing department goes on in secret. The dealers in Edinburgh teach if required, but there is no *temptation* to learn. Fenton and Carfrae, both capital preservers, and most repectable persons, have no collections. There is not sufficient demand to keep many specimens for sale; and their work is almost confined to setting up what is sent in by sportsmen, some favourite dog, parrot, or canary, or furnishing up some case of foreign skins, sent from friends or relatives abroad; and even these departments, they tell us, are becoming less frequently called for. The Ornithological collection in the Museum of the University is not arranged so that it can be studied, and the new acquisitions, or private donations, are not accessible. There is a want of some proper and well informed officer as curator, who could superintend, work out, and catalogue the general Zoological collection. There are no rooms or accommodation where specimens can be examined, and drawings or descriptions made by any one working at or interested in any particular group. The really fine collection is therefore almost useless, except as a holiday show; and the Government funds which are expended, are in a manner thrown away, from their inadequacy to furnish the convenience and facilities for study. These are some of the causes which retard the higher branches of Zoology, and make it desirable that a proper representation of the wants of the Museum should be made to Her Majesty's Government.

The Twentieth Meeting of the British Association for the Advancement of Science assembled in the usual manner on the evening of the 30th July, under the presidency of Sir David Brewster, one of its original founders and earliest supporters. It was numerously attended, but the scientific men from abroad did not number those of some former years, and we had no foreign Ornithologist present, Professor Van der Hœven of Leyden being the only gentleman who represented Zoology from the continent. The British Ornithologists present were, Mr. Selby, who was obliged to leave during the early part of the meeting, Mr. Hugh E. Strickland, and Mr. Gould, who both read papers, and Mr. Eyton. Mr. D. W. Mitchell was present during the last two days; Mr. James Wilson took part in the remarks made upon some of the papers; Mr. Wolley, a gentleman attending the Medical Classes in the University, read a paper on the birds of the Faroe Islands, and we trust we shall be able to continue his name among the list of those who study in the field as well as in the closet; and Mr. Arthur Strickland gave a communication on the "changes of plumage in British birds," but which, unfortunately coming on near the close of the section, was not concluded. By the kindness of these gentlemen, we have received their papers, and the next two parts of the "Contributions" will be devoted to them, as the Ornithological Work of Section D in 1850.

The only other Ornithological information publicly given during the week, was the instructive lecture of Dr. Mantell, upon the extinct birds of New Zealand, delivered in the Music Hall, on the evening of the 5th August. The time was much too short to allow a complete exposition of the subject, but sufficient we would hope was said to interest the hearers, and to cause every one who had friends or opportunities in these distant islands, to lend their help to trace the former history and fate of those gigantic bipeds, which bear so strongly upon the changes and distribution of animal life during a historic period. Dr. Mantell's son, who has settled in New Zealand, has already sent large collections of the bones to his father, which have added much to our knowledge of their structure; and Dr. Mantell stated, that his last letter, received only about a fortnight ago, announced the despatch of a large collection of New Zealand Birds, among which was a skin, supposed to belong to the *Notornis mantelli*, a bird hitherto only known in a fossil state.

ON A PECULIAR STRUCTURE IN THE RECTRICES OF *VIDUA PARADISEA* (LINN.)

BY H. E. STRICKLAND.

THE group of Ploceine birds which are distinguished by the assumption, during the breeding season, of greatly lengthened rectrices, and to which the generic name *Vidua* was given by Cuvier, have been in more recent times divided into three genera. M. Rüppell retained the name *Vidua* for the form of which *V. regia* (Linn.) is the type, and proposed the name *Coliuspasser* for another group, typified by *F. macrocerca*, Licht. (*C. flaviscapulatus*, Rüpp.) Mr. G. R. Gray proposed a third division, named *Chera*, for the "*Emberiza longicauda*" of Gmelin, distinguished by its longer and more rounded wings, in which the fifth primary is the longest, while in the other two divisions it is the third that is longest. I am disposed to retain all these generic groups as distinct, although they are very closely allied to each other. I must remark, however, that M. Rüppell has founded his genus *Coliuspasser* on a misconception of its true characters. He states, in his "Neue Wirbelthiere zu der Fauna von Abyssinien gehörig," that in *Vidua* it is only the upper tail-covers that are lengthened, the rectrices remaining of ordinary length, while in *Coliuspasser*, the true rectrices are extended far beyond the tail-covers. The fact however is, that if we carefully examine the tails of all these three groups, we shall find that they agree with other Passerine birds, in possessing the normal number of twelve rectrices, and that it is by the prolongation of certain of these rectrices, and not of the tail-covers, that the Whidah Birds acquire their peculiar character. But though *Coliuspasser* and restricted *Vidua* agree in this respect, they are nevertheless well characterized by the different modes in which their rectrices are prolonged. In *Vidua* the four external rectrices on each side are nearly equal and of ordinary length, while the four middle ones, which Rüppell mistook for tail-covers, are abruptly and very greatly lengthened. Of these four middle feathers, the two on one side have their *under* surfaces turned *towards* the under surfaces of the other two. This group will include the species *V. regia* (Linn.), *V. principalis* (Linn.), and *V. paradisea* (Linn.) *V. superciliosa* (Vieill.), said to have only two rectrices elongate, may probably be also referred to this genus.

In *Coliuspasser*, on the contrary, all the rectrices are more or less elongate. Some of them, as *C. macrura* (Gmel.), *C. macrocerca* (Licht.), &c., have the tail simply graduated, the middle rectrices being of moderate length, and the lateral ones gradually shorter. Other species, in which the elongation is carried to a greater extent, have the relative length of the rectrices variously modified. In *C. ardens* (Bodd.), (*V. panayensis*, Gmel.), the tail may be termed furcate, the medial rectrices being shortest, and the outer ones gradually lengthened, though the most external pair is (in my specimens at least) somewhat shorter than the penultimate one. In this species the rectrices are hollowed on their upper side; and it is probable, that in the living bird, the rectrices on each side of the centre have their *upper* surfaces turned towards those of the opposite side, as in the American "boat-tailed grackles" (*Scaphidurus*). This structure of the tail, the exact reverse of that which prevails in the majority of birds, is still more decidedly shown in the *Chera progne* (Bodd.) of Gray, a bird, which, were it not for the different form of the wing, would rank with *Coliuspasser* and not with *Vidua*.

A series of specimens of *Vidua paradisea*, in various stages of moult, collected in Kordofan, by Mr. J. Petherick, has revealed a curious fact in the development of the elongated rectrices, which appears not to have been before noticed. The tail of this bird is a very anomalous one, the submedial pair of rectrices being very greatly elongate, while the medial pair are much shorter, very broad, with a smooth hair-like shaft projecting near two inches beyond the webs. If we now examine the longest (or submedial) rectrices, we shall see that they differ from all the other tail-feathers, in presenting a serrated appearance at their margins. In the other feathers the barbs end in fine points, so that the webs which they compose terminate in an acute margin. But in this particular pair of rectrices, the barbs terminate abruptly, with an obliquely flattened disk at the extremity of each; and the webs composed of those barbs, are consequently both blunt and serrated at the margin.

On examining these feathers when in a half-grown state, a singular hair-like filament is seen to spring from their base, which explains the cause of these marginal serrations. This filament is narrow, flat, and thin, much resembling in appearance the barbs of the feathers, but reaching to three or four inches in length. Its distal extremity is free; but towards the base of the half formed feather it is seen to adhere to the extremities of all the barbs on one (generally the inner) side of the feather, forming a continuous margin or " selvage" to the web. Towards the base of the feather, where the imperfectly formed barbs are collected, as in all young feathers, into a cylindrical bundle, and inserted into a membranous sheath, the barbs belonging to both webs of the feather are seen to be connected at their extremities to the opposite sides of this intermediate filament. As the feather grows and the barbs become mature, their tips are gradually released from this connecting filament, those of the lower or exterior web first, and those of the interior one subsequently. Hence the distal portion of the filament becomes free and waves loosely in the air. It is probable, that when the whole feather reaches maturity, the filament is shed altogether.

The cicatrices, or points of junction between the tips of the barbs and the flat surface of the filament, produce a succession of slight indentations on both sides of the latter, and give it a serrated appearance, which is further increased by the alternate tufts of barbules which fringe its margin. Hence also arise the corresponding serrations on the margins of the feather, which have been before referred to.

It is remarkable, that these filaments, though apparently formed for some temporary purpose in the development of the feather, should exhibit a structure as highly complex as that of the feather-barbs themselves. I allude to the double row of *barbules* (" *Strahlen*" of German authors) which fringe the outer margin of the filament; they are not continuous as on the barbs (" *Aeste*"), but in little tufts, alternating with the surfaces of attachment of the barb-tips. (See *Fig.* 2). These barbules further exhibit those ultimate fringes to which the name *barbicels* has been given.

In ordinary feathers, the barbules on the distal side of the barb are, as is well known, furnished with hooked barbicels ("*Häkchen*"), while those on the proximal side are simple. But it is remarkable, that in these deciduous filaments which I am describing, *both* series of barbules are furnished with hooked barbicels. The object of these is obviously to embrace the barbules of the feather-barbs, during the attachment of the latter to the filament, and as these barbules are attached to both sides of the filament, it is requisite that the filament should be provided with a double series of hooks.

The object of this singular structure is probably the protection of the feather-barbs during the course of their development. But why so complex and elaborate an arrangement should be confined to two feathers only in the bird, and to one species of bird only (as far as is yet known), is one of the many questions of natural science which must probably remain unanswered.

Explanation of the Plate.

Fig. 1.—Under view of basal portion of one of the submedial rectrices of *Vidua paradisea,* in a half developed state.

a. Exterior web; *b.* interior web; *cc.* serrated margin; *d.* free portion of filament; *ef.* portion of filament attached to margin of interior web; *fg.* portion attached to both webs; *h.* barbs of exterior web recently detached from the filament and not yet incorporated into the web; *i.* membranous sheath surrounding the immature barbs.

Fig. 2.—Portion of filament magnified, showing the alternating tufts of barbules on each side.

Fig. 3.—*A.A.* Portion of filament highly magnified, with portions of barbs attached as in *Fig.* 1, *f. g.*

aa. Filament-barbules, forming two series of tufts, both of which are furnished with hooked barbicels; *bbb.* feather-barbs, belonging to the two opposite webs of the feather, connected at their distal extremities to opposite sides of the filament; *ccc.* barbules of the distal side of the barbs, furnished with hooked barbicels; *ddd.* barbules of the proximal side of the barb, devoid of barbicels, or furnished with only a very few simple ones.

ORNITHOLOGY OF SECTION D, 1850.

A BRIEF ACCOUNT
OF
THE RESEARCHES IN NATURAL HISTORY
OF
JOHN M'GILLIVRAY, Esq.
THE NATURALIST ATTACHED TO H. M. SURVEYING SHIP THE RATTLESNAKE,
ON THE
NORTH-EASTERN COASTS OF AUSTRALIA, NEW GUINEA, &c.
BY
JOHN GOULD, F.R.S., &c.

It is no less interesting to the scientific world than it is just to the commanders and naturalists of our exploring expeditions, that the results of their labours should be made known as speedily as possible. It affords me therefore very great pleasure, to communicate to the present meeting, by desire of Sir H. De la Beche and Professor Forbes, an account of the Quadrupeds and Birds procured and observed by Mr. John M'Gillivray, the Naturalist attached to Her Majesty's Surveying Ship Rattlesnake, employed under the command of the late Captain Owen Stanley, in exploring the eastern and northern coasts of Australia.

In the introduction to my "Birds of Australia," which I presume is known to many of my hearers, I have recorded an opinion, that a considerable number of species frequenting the north coast of that country yet remained to be made known to us, but I confess that I was not prepared for the novelties which have rewarded Mr. M'Gillivray's researches, nor to find so many fine species, hitherto supposed to be peculiar to New Guinea, to be equally common to the fauna of Australia.

Before enumerating the results of Mr. M'Gillivray's labours, I must not fail to direct your attention to the zeal with which he has worked in the cause to which he has devoted himself, to the very admirable manner in which his specimens are prepared, the neatness and accuracy with which they are labelled and their sex ascertained by dissection, the place where and the date when killed, and the many valuable notes he has made of their habits; nor must I omit to mention the kind and friendly assistance constantly rendered him by Captain Stanley, of which, it will be seen, he has himself made honourable mention—the result showing how important it is that officers employed in exploring expeditions should have a taste for natural history, as well as the kind of knowledge requisite for duly effecting the more immediate object of the voyage.

I shall now give such portions of the interesting letters with which Mr. M'Gillivray has favoured me, as have reference to those departments of natural history to which I have devoted myself, with such comments as may be necessary, together with such portions of his personal adventures as may appear to be of general interest.

" *H. M. S. Rattlesnake, Mauritius, 12th May*, 1847.

" As I am sending home my first box of specimens, I accompany them with a short note, to direct your attention to one which I take to be *Thalassidroma leachii;* a *Puffinus* which I have set down as a new species, closely allied to your *flavirhynchus*, and a *Sterna*. I have derived the greatest benefit from your paper on the *Procellaridæ*, which has enabled me to identify the species. The specimen numbered 25 I have called *glacialoïdes* by guess, there being no description to which I have access."

As regards the *Thalassidroma leachii*, no specimen was observed by me during my voyage round the world, and the above is the only instance I have heard of of its being seen so far south as the tropics; the *Puffinus* is the *Puffinus cinereus* of the European Fauna, and the above is the first instance recorded of its being seen south of the line; the *Sterna* is the *S. melanorhyncha*, figured in the Birds of Australia. Mr. M'Gillivray was right in considering the bird numbered 25 as *P. glacialoïdes*.

"*H. M. S. Rattlesnake,*
"*Off Cape Howe, South Coast of New South Wales,*
"*6th February*, 1848.

"In the beginning of November last, I sent you in a box of specimens, through Professor Forbes, three lists, showing the daily occurrence of the *Procellaridæ* during our outward voyage; *first*, between Rio de Janeiro and the Cape of Good Hope; *second*, between the Cape of Good Hope and the Mauritius; and *third*, between the Mauritius and Van Diemen's Land."

The following are the lists referred to, and they are of great value, as showing the range of the species enumerated therein; and are peculiarly interesting to me, as they tend to confirm the observations made by myself during my Voyage to and from Australia, of which a full account has been given in my work:—

TABULAR VIEW
OF
OCCURRENCE OF PROCELLARIDÆ.

SOUTH ATLANTIC — RIO DE JANEIRO TO CAPE OF GOOD HOPE.

Date, 1847	Diomedea exulans	D. fuliginosa	D. chlororhynchos and culminata	Procellaria conspicillata	P. atlantica	P. leucocephala	P. mollis	Puffinus n. sp.? Skin, No. 6	Thalassidroma leucogaster	Th. wilsonii	Prions	Procellaria glacialoides	P., like Mollis, with white belly	Latitude at Noon	Longitude at Noon
FEB.														South	West
6	...	...	...	1	...	...	...	...	...	...	...	...	...	28.24	36.18
7	...	...	...	3	A few	...	...	...	...	...	...	...	...	28 29	35.29
8	...	...	...	3	do.	...	2	...	...	...	...	...	...	30.51	36.48
9	...	...	...	3	do.	...	A few	...	...	...	...	...	...	33.21	36.55
10	1	...	...	Several	do.	...	do.	...	2 or 3	...	...	...	...	35.21	35.32
11	3	...	...	do.	do.	...	do.	...	do.	...	...	...	...	36.45	33.00
12	8	...	...	do.	do.	...	do.	...	do.	...	...	...	...	37.21	30.55
13	8	...	...	do.	*do.	...	*do.	2 or 3	*do.	...	...	...	...	36.51	27.50
14	3	...	...	do.	do.	...	Numers.	...	Numers	...	...	...	...	36.32	26.32
15	3	...	...	do.	Plentiful	...	Very do.	...	Several	1	...	...	1	36.25	24.06
16	3	...	1	do.	1 or 2	...	1 or 2	1	...	...	...	...	...	36.07	21.04
17	3	...	...	Numers.	2	...	do.	2	1	1	...	...	...	35.30	19.55
18	3	1	...	Several	2	1	do.	2	1 or 2	...	...	...	1	36.42	18.49
19	1	Numerous	1	1	...	...	...	In prodigious numbers	4 or 5	...	Many	...	...	38.07	16.42
20	2	3	1	...	...	...	...	do.	12	...	...	...	...	38.05	13.46
21	2	1	...	...	...	...	...	2 or 3	3 or 4	1	1	...	...	37.47	10.13
22	2	...	2	1	...	6	2 or 3	1 or 2	do.	...	5 or 6	...	...	37.26	7.44
23	4	...	*6	2	1	...	2	1	2 or 3	...	...	...	...	36.07	5.10
24	...	...	...	2	*4	...	*2	...	1	...	...	...	...	34 43	4.00
25	1	...	...	2	2	...	1	1	2	...	...	...	...	35.28	3.06
26	1	...	...	1	1	...	2	1	2	...	...	...	...	37.00	1.27
27	20	3	1	1	2	...	2	...	2	1	5 or 6	...	...	38.22	0.25
28	4	...	1	1	2	...	1	...	2	...	Many	...	...	38.52	East 0.46
MARCH															
1	6	1	1	1	5 or 6	1	12	...	...	1	...	1	...	38.25	4.1
2	...	...	...	...	1 or 2	...	2 or 3	...	...	...	...	...	...	37.38	8.13
3	1	...	...	...	1	...	...	...	...	...	...	...	...	36.48	10.16
4	2	...	...	...	2	...	...	...	...	1	...	...	...	36.41	12.05
5	...	...	...	...	...	...	...	...	...	...	...	...	...	36.22	13.40
6	1	...	...	...	...	...	1	...	...	1	...	...	...	36.26	14.44
7	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...

ORNITHOLOGY OF SECTION D, 1850.

SOUTH INDIAN OCEAN — CAPE OF GOOD HOPE TO MAURITIUS.

Date, 1847	Diomedea exulans	D. fuliginosa	D. chlororhyncha or spadicea	Procellaria gigantea	P. æquinoctialis	P. atlantica	P. glacialoides	P. mollis	Prions	Thalassidroma leucogaster	Th. wilsonii	Latitude at Noon	Longitude at Noon
APRIL												South	East
13	2	2	1	...	...	1	...	2 or 3	1 or 2	Abundant	...	36.16	27.10
14	*12	2	—	...	1	2	...	do.	do.	do.	...	36.52	27.52
15	3	*2	...	...	...	1	2	2	5 or 6	do.	1	38.00	29.41
16	1	2	...	...	1	1	2	2	Many	Very do.	...	38.00	32.51
17	4 or 5	4	1	...	1	2	2	5 or 6	...	Numerous	1	37 14	36.20
18	do.	3	...	...	...	...	...	3 or 4	...	do.	...	37 14	37.32
19	3	4	1	...	2	1	2	do.	Many	do.	1	37.50	39.57
20	4	4	...	...	...	...	2	4	...	do.	...	38 23	43.28
21	7	*3	...	...	2	4	...	4 or 5	...	do.	...	37.12	45.38
22	5 or 6	3	...	2	...	1	5 or 6	do.	Many	do.	...	37.57	49.37
23	30	3	...	1	1	1	* Numerous	2 or 3	A few	do.	...	36.50	53.18
24	10 or 12	3	...	1	1	...	5 or 6	do.	...	do.	1	34.26	54.20
25	5 or 6	3	...	...	...	1	12 or 20	do.	do.	do.	...	32.20	55.10
26	1	...	...	...	1	...	1	1	...	2 or 3	...	30.14	56.56
27	...	...	...	...	...	...	3	1	...	2	...	28.15	57.20
28	...	...	...	...	...	1	1	2	...	2 or 3	...	26 57	57.30
29	...	...	...	...	...	1	...	1	...	3	...	27.16	58.30
30	...	...	...	...	...	...	...	1	...	3	...	26.50	60.04
MAY													
1	...	...	...	...	...	...	...	...	...	3	...	25 49	61.08
2	...	...	...	...	...	...	...	...	...	3	...	23.06	60.40

SOUTH INDIAN OCEAN — MAURITIUS TO VAN DIEMEN'S LAND.

Date, 1847	Diomedea exulans	D. fuliginosa	D. chlororhyncha or spadicea	D. melanophrys	Procellaria gigantea	P. macroptera?	P. glacialoides	P. leucocephala	P. mollis	Daption capensis	Prions	Thalassidroma leucogaster	Th. wilsonii	Latitude at Noon	Longitude at Noon
MAY														South	East
18	...	...	...	...	...	...	...	...	...	...	...	1	...	21.53	56.50
19	...	...	...	...	...	...	...	...	1	...	Numers.	1	...	24.17	57.04
20	...	...	...	...	...	...	...	...	...	...	...	...	...	26 10	58.51
21	...	...	...	...	...	...	...	...	...	...	...	...	...	27.37	61.12
22	...	...	...	...	...	...	...	...	...	...	...	...	...	28.06	63.30
23	...	...	...	...	...	1	...	...	1	...	...	...	1	28 10	65.50
24	...	...	...	...	...	...	...	...	1	...	...	...	...	28 1	67.30
25	...	...	...	...	...	1	1	...	1	...	...	...	...	29.50	67.10
26	...	...	...	...	...	1	6	...	...	...	...	...	...	32.05	69.05
27	1	1	...	...	...	1	6	...	...	1	...	2	...	33.48	70.18
28	...	1	...	...	...	...	6	...	...	...	...	1	...	35.33	72.13
29	...	...	...	...	...	1	6	...	...	1	...	2	...	36.06	74.17
30	1	...	...	...	...	1	6	...	...	2	...	2	...	36.09	76.58
31	1	2	...	...	...	1	3 or 4	...	2	2	...	2	...	35.54	79.29
JUNE															
1	4	2	1	...	...	2	*12	...	...	3	2 or 3	1	...	35.01	80.56
2	4	8	1	...	...	2	*12	...	...	6	do.	...	...	35.22	86.32
3	4	8	1	...	1	1	*12	...	1	12	...	...	...	35.40	87.55
4	6	8	2	1	1	1	20	...	1	12	Numers	...	...	35.52	91.25
5	6	6	*3	1	1	1	12	...	1	12	...	...	...	36.17	95.03
6	4	1	3	1	...	...	5 or 6	...	...	Numers.	...	...	...	36.42	98.06
7	2	4	2	2	1	1	5 or 6	3	1	6	...	...	...	37.32	101.18
8	2	2	...	...	...	2	do.	...	...	12	Numers.	...	...	37.58	103.35
9	2	4	1	...	...	3	do.	...	...	12	do.	...	...	38.30	105.36
10	3	6	1	...	...	2	do.	...	...	Very numerous	do.	...	...	39.03	110.47
11	3	6	1	...	...	3	Numers.	3	...	do.	do.	...	...	39.38	114.57
12	...	...	...	...	...	...	do.	...	...	do.	do.	...	...	39.55	117.50
13	...	Numers.	2	...	...	...	do.	...	...	do.	do.	...	...	40.35	121.43
14	2	do.	**5 or 6	...	...	*2	A few	***4	...	*Nums.	****do.	...	...	40.45	123.26
15	2	Very numerous	1	...	...	1	Very numerous	1	...	do.	do.	...	...	42.10	125.37
16	2	Numers.	1	...	...	...	*do.	1	...	A few	do.	...	...	43.44	126.37
17	2	do.	2	...	1	1	Numers.	1	...	Numers	do.	...	...	44.36	126.57
18	2	do.	1	...	1	1	do.	...	...	do.	do.	...	...	43.46	127.41
19	...	5 or 6	2	...	...	...	do.	1	...	do.	do.	...	...	43 27	129.20
20	2	do.	5 or 6	...	...	...	do.	...	...	do.	do.	...	...	42.58	132.56
21	2	do.	do.	...	...	...	do.	...	...	do.	do.	...	...	43.24	137.19
22	...	do.	1 or 2	...	...	...	do.	2	...	do.	...	...	...	44.02	141.08
23	4 or 5	Numers.	5 or 6	...	...	...	do.	...	...	A few	...	...	...	44.04	145.22

"I was rather fortunate in procuring specimens of *Procellaridæ*, by dint of fishing, and going out in the jolly boat whenever there was an opportunity; on one of these occasions the boat was capsized, and I lost a valuable gun; upon another, when in latitude 40° 45′ S., and longitude 123° 26′ E., while the boats were trying for deep sea soundings, without reaching the bottom with 3500 fathoms, or nearly four miles of line, I reaped a rich harvest, having procured and skinned two specimens of *Procellaria leucocephala*, one of *P. macroptera?* two of *Prion turtur*, and one of *P. banksii*.

"In all, I obtained skins and skeletons of

"*Diomedéa exulans.*
—— *culminata.*
—— *chlororhyncha.*
—— *fuliginosa.*
Procellaria æquinoctialis.
—— *atlantica.*
—— *glacialoïdes.*
—— *macroptera?*
Procellaria leucocephala.
—— *mollis.*
Puffinus cinereus.
Prion turtur.
— *banksii.*
Thalassidroma leachii.
—— *leucogaster.*
—— *nereis.*

"Of these I am doubtful about *Procellaria macroptera*. I caught another example of this bird a day's sail to the southward of Sydney, when a large flock kept in the ship's wake for a whole morning, during blowing drizzly weather; they eagerly pounced at and followed the bait; but as the ship was going eight knots, it was only by hooking one in the wing that I caught it.

"The *Thalassidroma nereis* was seen every day during our passage from Hobart Town to Sydney; when in latitude 38½° S. many hovered around the ship, and I shot two from a boat.

"*Lestris catarrhactes.* On various occasions, and in different parts of the South Indian Ocean, and off the Cape of Good Hope, single, and once two individuals of this species were observed. I have seen it following and hovering over a bait towing astern, and once saw it chase a Cape Petrel (*Daption capensis*), and force it to alight on the water, where it left it. This bird seldom remained with us for more than half an hour at a time, during which it made a few circular flights about the ship."

Here is another instance of a bird, hitherto supposed to be peculiar to our own seas, crossing and enjoying a similar range on the other side of the line; I frequently saw it myself, and can affirm, that it resorts to the temperate seas of the latitude in which it was observed by Mr. M'Gillivray, all round the globe.

"Our voyage out was a very prosperous one; we called at Madeira, Rio de Janeiro, the Cape of Good Hope, the Mauritius, and Hobart Town. At some of these places I was rather successful with the dredge; and at sea, the towing net was in constant use whenever the weather permitted. After refitting at Sydney, we went to Moreton Bay, thence to Port Curtis. At Port Molle I shot in the brushes both *Megapodius* and *Talegalla*, also *Chalcophaps chrysochlora*, and a *Macropygia*, respecting which I am anxious to have your opinion; it appears to me to be smaller than *M. phasianella*. Here the captain's servant shot a small *Nectarinia pectoralis*, respecting which I gave you a note of its having been found by Captain Ince and myself to the northward."

I have carefully examined the specimens of *Macropygia*, and find the differences too slight to admit of its being regarded as distinct.

"At Cape Upstart I got a *Podargus*, which I wish you to examine."

"At Moreton Bay we saw *Sula piscator*, *Onychoprion panaya*, and *Anöus leucocapillus*, and found the last as far south as off Cape Byron."

"*H.M.S. Rattlesnake, at Sea, May* 12, 1849.
"*Moreton Bay, May* 19, 1849.

"We sailed from Sydney a few days ago for Moreton Bay, after remaining there a week we proceed to sea, keeping outside of the reefs, and making a straight course for the Louisiade and New Guinea, where the ship will remain surveying until September, when she crosses to Cape York, to meet a vessel from Sydney with provisions. Respecting the route to be taken on our return to Sydney, I know nothing at present, but we expect to be back in January, 1850. I have long been looking forward to the Louisiade and New Guinea portion of the voyage; still, unless we are so fortunate as to discover a harbour on the south coast of the latter, a dead lee shore, nothing more can be done than was effected by Bougainville, who made a running survey without ever being able to land. Our New Guinea prospects are better, however, and with these are associated in my mind visions of *Dendrolagi*, *Cusci*, and Birds of Paradise, mingled with imaginary skirmishes with the natives, &c.; but you shall know the result in due time.

"But I have not yet given you any account of our last cruize of nine months: We left Sydney on the 29th of April, 1848, and after landing Kennedy and his party from a vessel in company, at

Rockingham Bay, commenced the survey of the coast and the channel between that and the inner edge of the outer reefs, known as 'King's Inner Passage.' I saw poor Kennedy the day before he broke up his camp; he was in high spirits, and confident of success; his party were well equipped, and his appointments excellent. From this place the survey was continued to Cape York, occupying five months. As the ship moved on slowly from island to island, I had capital opportunities of landing; being small, they were not inhabited by any of the larger mammals. We did not visit any of the great breeding places like Raine's Islet, consequently I was disappointed in not getting the *Atagen ariel*, *Sula personata*, &c. On the islands, reefs and sandbanks off the north-east coast, I made a good collection of shells. Few of the marine ones are new, but many of the land shells must be. Some belong to genera not hitherto recorded as Australian. In the way of Botany I have obtained many additions to the Australian Flora, chiefly of species formerly supposed to be peculiar to the Malayan Peninsula and India; these, with some seeds, sections of wood, &c., have been sent to Sir W. J. Hooker, at Kew. The monotony to every one on board but myself was very great; latterly I too got rather tired, no adventure of any kind having occurred; no meeting with vessels, nor scarcely any intercourse with the natives; every day, in fact, pretty much like its predecessor; at length we reached Cape York, and while waiting there, the provision ship arrived—just in time—for we were on short allowance. At Cape York we had as many as 200 natives of various tribes assembled at one time, but we continued throughout upon the best of terms. They assisted us in watering; came on board occasionally; and one or more used constantly to accompany me in my otherwise solitary rambles in the bush, without any attempt at mischief. Yet these were the very people who, a month afterwards, murdered Kennedy and his party, only twenty miles from where we then were. At Cape York I occasionally saw and shot at a small Wallaby, darker in colour than *Halmaturus agilis*, but unfortunately failed in procuring it.

"We put in at Port Essington, and remained there five days. Recollecting your instructions regarding the Bower Bird and *Poëphila mirabilis*, and being informed that the latter had lately been seen near Coral Bay, I got the loan of the decked boat of the settlement, and proceeded thither; there I found my old friend Filston in charge of the invalid station. He told me that the finches

[illegible]

[illegible]

[illegible]

[illegible]

Of the above, I consider the *Tanysiptera*, *Syma*, *Drymodes*, and *Carpophaga*, to be new to science, while the remainder have been described as pertaining to the Fauna of New Guinea, and I have accordingly characterized some of these at the meeting of the Zoological Society, held on the 23d of July. I find I have omitted to mention, that among the birds sent home by Mr. M'Gillivray, on a former occasion, were a very fine pair of Rifle Birds, which he considered to be identical with the old *Ptilorhis paradiseus*, but which, had he had examples of the latter bird at hand to compare them with, he would at once have seen was distinct. This very beautiful species I have had the high honour of dedicating to our amiable and excellent sovereign, under the appellation of *Ptilorhis victoriæ*. It will be seen, therefore, that the Australian Fauna is graced by no less than three species of this very beautiful genus, viz.—

Ptilorhis magnificus, *victoriæ*, *paradiseus*.

"You will oblige me by comparing the *Chlamydera*, from Cape York, with the other members of the genus, as I have a strong suspicion that it may be different. I shot it while playing about a bower. I have sent it to the British Museum."

I have complied with Mr. M'Gillivray's wish, and find the bird to be quite distinct, both from *C. nuchalis* and *C. maculata*, and have accordingly named it *cerviniventris*, from the colouring of the abdomen. Thus we have no less than four different species of birds inhabiting Australia, having the peculiar habit of constructing bowers or playing places, viz.—

Ptilonorhynchus holosericeus.
Chlamydera nuchalis, *maculata*, *cerviniventris*.

"After I wrote to you from Moreton Bay, May 19, 1849, we sailed to the northward for Rossel Island, the easternmost extreme of the Louisiade archipelago, which runs west for several hundred miles, until it joins New Guinea. We followed the Bramble through an opening in the barrier reef surrounding the group, and anchored in what is called Coral Haven. Here the survey commenced in longitude 153° 16′ E., and latitude 11° 18′ S. The natives were at first shy and suspicious; afterwards we had much communication with them, but they proved a warlike and treacherous race; and although we came in collision with them only once, yet on several occasions, hostilities were avoided only by good management on our part. They are copper coloured, with generally huge mops of hair, frizzled out with a long comb; have beautiful canoes, which both pull and sail well; cultivate the ground after a fashion, and even domesticate the Papuan Pig; their weapons are spears and wooden swords. The men wear a breast cloth of pandanus leaves, and the women a short petticoat. We watered the ship at a running stream on Ile Sud Est of the French navigators, and this gave me some opportunities of landing. We had to pull up a mile and a half along a narrow salt and brackish creek, bordered first by mangroves and afterwards by dense jungle which we could scarcely traverse before we could reach the fresh water. The suspicious conduct of the natives, seven or eight canoes full of whom daily landed at the mouth of the creek, rendered it incautious to wander far from the watering party, and hence my operations were sadly crippled. Among the birds many appeared to me to be Australian. I wish you would look at a Lory I shot here; it is nearly allied to *Lorius domicellus*, but differs in the marking of the abdomen; also a *Monarcha* like *M. trivirgata*, but having black wings. Birds were very plentiful, but difficult to see among the foliage and few were killed. Some interesting fresh water, and and one or two land shells, were procured here, and also a few plants. At another anchorage I landed on 'Chaumeht' Island, and obtained a *Graucalus*, which I think is your *G. hypoleucus;* also a small swallow, identical with two I sent from Dunk Island, off the north-east coast of Australia. At our various anchorages among the islands of this group, I picked up a considerable variety of fishes, about forty species of which were skinned, and the rest placed in spirits. Our next halting place was at the "Duchateau" Isles; a group of three low, wooded, uninhabited islets, where we had frequent opportunities of landing without molestation. Here we found a *Megapodius*, closely allied to *M. tumulus*, but different and probably new; also a fine *Carpophaga*, very like like *C. oceanica*, but differing in the colouring of the legs from the description given by Lesson of that species. It was very plentiful, and most individuals were furnished with a fleshy caruncle at the base of the bill, of which I have made a drawing in case it should be necessary

[illegible]

off alive by the natives. Another of the latter, originally brought from New Guinea, was afterwards obtained at Darnley Island, making a fine pair of this singular Opossum. We saw a few feathers of Birds of Paradise; plenty of those of a Cassowary; and some heads of a *Buceros* varying much in the number and arrangements of the plates at the base of the bill. I can scarcely convey to you my feelings of deep disappointment, at being for so long a time employed upon a coast where so few opportunities of landing occurred. Had it been prudent so to do, our disposable force was more than sufficient to ascend some at least of the large rivers seen on various parts of the coast, fed by magnificent mountain ranges; one of which, Mount D'Urville, attains an elevation of upwards of 12,000 feet. However, there was no help for it; so after completing the survey, we ran to Cape York, where we arrived in the beginning of October. Here we remained for three months, while the Bramble and some of the boats were engaged in completing the survey of Torres Straits. This gave us an opportunity of seeing much of the neighbouring country; and we were surprised to find several running streams within a few miles of the anchorage, of which, during my five or six previous visits, I had no knowledge; and many fine brushes, inhabited by several species of birds, of the existence of which we were not before aware, although some of them, as the *Aplonis*, were common. Doubtless, many more are yet to be found in the same district, and will be brought to light when an establishment is formed by Government at Cape York, an event soon likely to take place, now that Port Essington has been entirely abandoned.

" But to resume—it was chiefly by our intimacy with the natives that we succeeded in getting so many new birds; and in acquiring a knowledge of their language, I was materially assisted by a white woman, who had resided for four years and a half among a neighbouring tribe, who came to us for protection, and was taken on board and brought on to Sydney, where her friends are living. She was accompanying her husband in a small cutter from Moreton Bay to Port Essington, when the vessel struck on a reef in the Straits, and the men were drowned in attempting to swim on shore. She was rescued by the natives, one of whom, of course, claimed her as his property, and treated her as his gin ever afterwards, but was still very kind and much attached to her. She speaks well of the tribe which inhabits the Prince of Wales Islands, and were unwilling to part with her; and she escaped to us chiefly by appealing to their cupidity, and representing that she would get axes, &c., from the white men, whom she wanted to see only for an hour or so, after which she would return to her black friends. She is now little more than twenty-one years of age, having run away at fifteen, and although perfectly illiterate, is very sharp (colonial in fact), and has been very observant. From her, besides language, for which I became her pupil, I got much information regarding the manners, customs, &c., of the aborigines.

"The two Bats I sent from Cape York last year I take to be *Molossus australis* and a new *Rhinolophus*. I got one singular Bat there, a red coloured *Harpyia*, with tubular projecting nostrils, the size of a half grown rat; but when brought to me it was partially decomposed, having been shot some hours before, besides being riddled like a sieve. It presents a very woeful appearance in spirits, but I hope will still be sufficiently perfect to be described on our return. I may get another at Cape York, as it is well known to the natives, who, upon at least one occasion, directed my attention to its cry. On our return from Cape York to Sydney, we called at Mount Earnest and Darnley Island, in the Straits, afterwards at one of the New Guinea and one of the Louisiade Islands, from the latter of which we made the best of our way to Sydney, leaving Yule in the Bramble to patch up the many holes in the badly constructed chart. We have now been here three weeks, the Bramble has not yet arrived, and our people are beginning to be apprehensive of accident. Captain Stanley was very ill during the passage down—in short, was at one time in a very dangerous state, and has even now not quite recovered; of course, the news of his father's death did not contribute to his recovery. We are now, in the absence of any orders to the contrary, about to return to England *via* Cape York, Mauritius, and Cape of Good Hope. Thus, I shall be a second time disappointed of my anticipated circumnavigation of the globe. We shall not start, however, it is said, until June."

I have thus given a cursory glance at the labours of Mr. M'Gillivray as regards Quadrupeds and Birds. I know that his collections are equally rich in other departments; and I need hardly say, how interesting it would be to science, if a careful *resumé* of what he has done in every department should be submitted to the next meeting of the British Association, by which time Mr. M'Gillivray will have returned to this country.

The very next mail that arrived from Sydney, brought the melancholy intelligence of the death of Captain Stanley, the commander of the expedition, to whose kindness and liberality science is greatly indebted for the acquisition of the many novelties alluded to in this paper, who, like his venerable father, the late Bishop of Norwich, ever evinced a warm desire to promote the study of Natural History, and whose death, following so soon upon that of the excellent prelate, must have been a sore affliction to his bereaved family.

Note to Mr. Gould's Paper—"A brief account of the Researches of John M'Gillivray, Esq., in H.M.S. Rattlesnake," &c.

Tanysiptera Sylvia, Gould. Bill and feet sealing-wax red; crown of the head, wings, and five lateral tail-feathers on each side, blue; ear-coverts, back of the neck, and mantle, black; in the centre of the latter a triangular mark of white; rump and two middle tail-feathers, which exceed ten inches in length, pure white; all the under surface cinnamon red.

About the size of *T. Dea.*

Vide Proc. of Zool. Soc. May 14th, 1850.

Halcyon (*Syma ?*) *flavirostris*, Gould. Bill fine yellow, passing into brown at the tip; crown of the head, back of the neck, ear-coverts, and flanks, cinnamon red; at the back of the neck a narrow broken collar of black; throat and lower part of the abdomen tawny white; back and wings sordid green; rump and tail greenish blue.

Smaller, but nearly allied to the *Syma Torotoro* of M. Lesson.

Vide Proc. of Zool. Soc. May 14th, 1850.

Drymodes superciliaris, Gould. Lores white; immediately above and below the eye a black mark forming a conspicuous moustache; crown of the head and upper surface reddish brown, passing into chestnut red on the rump and six middle tail-feathers; remainder of the tail-feathers black, tipped with white; wings black, with the base of the primaries and the tips of the coverts white, forming two bands across the wing; throat and centre of the abdomen fawn white; chest and flanks washed with tawny.

About the size of *D. brunneopygia*.

Vide Proc. of Zool. Soc. May 14th, 1850.

Carpophaga assimilis, Gould. Head, throat, and ear-coverts, grey; all the upper surface, wings, and tail, golden green; wing-coverts with a spot of rich yellow at the tip, forming an oblique band across the shoulder; line down the centre of the throat, chest, and abdomen, rich purple; under wing-coverts, vent, thighs, and under tail-coverts, rich orange yellow; basal portion of the inner webs of the primaries and secondaries purplish cinnamon.

Very similar to *C. magnifica*, but considerably less in all its admeasurements.

Vide Proc. of Zool. Soc. May 14th, 1850.

Chlamydera cerviniventris, Gould. Upper surface brown, each feather narrowly margined and marked at the tip with buffy-white; throat striated with greyish-brown and buff; under surface of the shoulder, abdomen, thighs, and under tail-coverts, light, pure fawn-colour.

Intermediate in size between *C. nuchalis* and *C. maculata*, and distinguished from both by the fine fawn-colouring of the under surface.

Vide Proc. of Zool. Soc. May 14th, 1850.

The species described above, are all from the continent of Australia, and were chiefly obtained on Cape York Peninsula.

Nectarinia Australis, Gould. Crown of the head and upper surface olive green; over and under the eye, two very indistinct marks of yellow; throat and chest steel blue; remainder of the under surface fine yellow; bill and feet black.

Differs from *N. frænata* in its larger size, in its straighter bill, and in the stripe of yellow over the eye being almost obsolete. It is the bird spoken of in Mr. M'Gillivray's paper as *N. pectoralis*, which name cannot be retained, as it had been previously applied to another member of the genus.

Vide Proc. of Zool. Soc. May 14th, 1850.

Monarcha leucotis, Gould. Crown of head, back of the neck, back, primaries, and six middle tail-feathers, black; the three lateral tail-feathers on each side black, with white tips; lores, a broad mark over the eye, ear-coverts, sides of the neck scapularies, and upper tail-coverts, white; throat white, bounded below with black, the feathers lengthened and protuberant; chest and abdomen light grey; bill and feet lead-colour.

About the size of *M. trivirgata*.

Vide Proc. of Zool. Soc. May 14th, 1850.

NOTE.—The *ptilonopus*, mentioned on page 102, is nearly allied to the *Columba rivoli, Fl. prev.*, figured in the Iconographie Ornithologique of O. des Murs, pl. iv., who states that the specimen is in the Parisian Museum, and that its locality is unknown. The bird brought by the Rattlesnake differs from O. des Murs' figure, in wanting the pinkish purple, which there is represented as covering the centre of the abdomen, that part with the vent and under tail-covers being in the present bird of a pale lemon yellow. They are most probably distinct, and if so, Mr. Gould has suggested the specific name of *P. strophium* for it.—W. J.

SOME OBSERVATIONS

ON THE

BIRDS OF THE FAROE ISLANDS.

By J. WOLLEY, M.A.

THE Fauna and Flora of the Faroe Islands have received much attention in several departments of natural history, for from their peculiar position, as a connecting link between Europe and North America, through Iceland and Greenland, the character of their productions is a study of importance to the physical geographer. However, observers have been but few, and I therefore venture to offer some small contributions towards their Ornithology, which I collected in the summer of 1849, in a visit of five weeks' duration. The birds have indeed been already described more than once, but many errors are prevalent with respect to those which breed there, and the lines of distinction between true natives, summer and winter residents, and mere wayfarers, are so far incorrectly drawn.

I will only allude, in a few words, to the kind of accommodation which the Faroe Islands afford to the feathered race. Situate in an open sea, and also an intermediate station on the high way to Iceland, they offer a resting place to wanderers over the ocean. Most of the islands of which the group is composed, are mountains, whose foundations are far below the surface of the water, and their sides are divided into horizontal terraces from the bedding of the trap rock. In many places, especially to the north and west, there are precipices of such a stupendous height, as to have their summits generally in the clouds, and they are often perpendicular from top to bottom; but they are frequently interrupted by broad grassy ledges, upon which the sloping turf is generally undermined by the holes of countless Puffins, *Mormon fratercula*. On little shelves, on the face of the precipices themselves, breed the Guillemots; and on any projecting point, the Kittiwakes, *L. tridactylus*, place their nest; whilst the Razorbills, *Alca torda*, are on more secure ledges and amongst stones. Here are plenty of sloping hill sides, and open stones for the Shearwater, *Puffinus anglorum*, and Petrel, *Procellaria pelagica*; and there are large blocks of rock, amongst which the Green Cormorant delights to find a sheltered home; for the Great Black-backed Gull, *Larus marinus*, there are inaccessible stacks or drangs — in fact, no bird which is merely in want of house room, need have any difficulty; but he must be prepared to withstand a good deal of rough weather. Fierce blasts of wind frequently rush down from the mountains, mists and rain are almost incessant, and the air is so damp, that the sods of grass, with which the roofs of the wooden houses of men are covered, are even at the end of summer of the most spring-like green; yet there are seldom any uncomfortably hot days in summer, and no very severe cold in winter. With respect to food, there appears to be an abundance of small fish within reach; and the vast swarms of Guillemots, *Uria troile*, and such like birds, would alone be sufficient to show this; Soland Geese, *Sula bassana*, too, find enough of a larger size within a reasonable flight of the station they have chosen. Other marine animals are in plenty, some, probably crustaceous, occasionally in such compact shoals, as, in their sudden rise to the surface, to have given origin to the story of one kind of sea serpent, or rather flat sea monster, the Kraken of Pontoppidan, here called Kraka or Teara-bue; whales too, principally *Phocæna melas*, the Ca'ing Whale, and another species very nearly allied, often in prodigious herds, show the richness of the surrounding sea. The great numbers of Oyster Catchers and Eider Ducks mark the abundance of the productions of the wave-washed rocks. Representatives of almost every tribe of sea-fowl here fare luxuriously. But when we turn to the land, we do not find the same fertility and plenty; there is indeed a great show of green, and in some places plenty of good grass, but generally there is a large proportion of *carices*, *juncaceæ*, and other plants, on a thin covering of peaty soil; and these afforded food to Wild Geese and Swans during the summer in former times. Insects are in small numbers, but not so few but that a Snow Bunting can get a good mouthful for its young; Snipes too are well pleased with their entertainment. Lakes are not numerous, but there are a few which satisfy the wants of the Common Wild Duck, *Anas boschas*, and also of the Red-throated Diver, *Colymbus septentrionalis* (for Trout and Salmon are not absent), and they serve as fresh water baths to continued flocks of Kittiwakes. There is no heather that could be sufficient for the Red Grouse, *Tetrao lagopus;* no tree or even shrub of a foot in height.

In this brief sketch of the inducements held out to birds to take up their abode in these islands, we should not omit to notice the general peaceable character of the human inhabitants, who do not constantly molest them; but catch them only at certain seasons, and then with as little disturbance as possible. The parasites of man, the dog and the rat, are their only other enemies, if we except the occasional visits of a kind of whale, which the inhabitants call the Trold Whale, and which they much dread from the havoc it makes amongst their Eider Ducks and their Seals. Sharks are in such plenty as to occupy a vessel constantly in catching them; but they are never known to attack the birds. To the Hooded Crow, *Corvus corone*, and the Raven, *Corvus corax*, the vicinity of man is most advantageous, from the offal and other refuse which falls to their share; but they and some other birds are less agreeable to their feathered neighbours.

The birds which we found breeding in the Faroe Islands are as follows:—

Anthus pratensis, Titlark } all plentiful.
Anthus petrosus, Rock Pipit
Saxicola œnanthe, Wheatear
Alauda pratensis, Common Lark, one pair, probably breeding.
Corvus corax, Raven.
Corvus corone, Hooded Crow.
Sturnus vulgaris, Starling.
Emberiza nivalis, Snow Bunting.
Columba livia, Rock Pigeon.
Charadrius pluvialis, Golden Plover.
C. hiaticula, Ringed Plover.
Scolopax gallinago, Common Snipe.
Hæmatopus ostralegus, Oyster Catcher.
Numenius phæopus, Whimbrel.
Tringa variabilis, Dunlin.
Tringa maritima, Purple Sandpiper.
Phalaropus hyperboreus, Red-necked Phalarope.

Anas boschas, Mallard.
Somateria mollissima, Eider Duck.
Colymbus septentrionalis, Red-throated Diver.
Uria grylle, Black Guillemot.
Uria troile, Common Guillemot.
Mormon fratercula, Puffin.
Alca torda, Razorbill.
Phlacrocorax carbo, Common Cormorant.
P. cristatus, Green Cormorant.
Sula bassana, Gannet.
Sterna arctica, Arctic Tern.
Larus tridactylus, Kittiwake.
L. argentatus, Herring Gull.
L. fuscus, Lesser Black-backed Gull.
L. marinus, Greater Black-backed Gull.
Lestris catarrhactes, Common Skua.
Lestris richardsonii, Richardson's Skua.
Procellaria glacialis, Fulmar.
Puffinus anglorum, Manx Shearwater.
Thalassidroma pelagica, Storm Petrel.

This list contains thirty-seven birds, of which the half may be considered purely maritime; of the remaining nineteen, nine are purely land, if we include the Rock Pigeon and the Rock Pipit, and ten are littoral, more or less; these divisions however being arbitrary. There may be several others that breed besides those in the list, as *Mergus serrator*, the Red-breasted Merganser, &c., but if so, they are in very small numbers. I saw also the following in July, or the end of June, but I could not get any indications of their having bred:—

Ardea cinerea, Common Heron—a single bird.
Cypselus apus, Swift—one at the end of June.
Calidris arenaria, Sanderling—one pair end of July.
Strepsilas interpres, Turnstone—a small flock.
Totanus calidris, Redshank—a good sized flock.
Anas glacialis, Longtailed Duck—one male.

I made special search for and inquiries after a number of birds which have been said to breed in the Faroe Islands, but which I could not find any traces of; the principal of these were—

Falco gyrfalco, Gyr Falcon.
Anser leucopsis, Bernicle.
Anser torquatus, Brent Goose.
Somateria spectabilis, King Duck.
Colymbus glacialis, Great Northern Diver.
Uria brunnichii, Brunnich's Guillemot.
Mergulus melanoleucos, Little Auk.
Alca impennis, Great Auk.
Larus glaucus, Glaucous Gull.

I will proceed to make a few remarks on some of the birds in the first list—there occur in it the names of only two birds which are not known to breed in Britain; the first of these is the Snow Bunting, *Emberiza nivalis*, which breeds very scantily near the tops of the mountains; but in the northernmost islands of the group, on the lower grounds, and in small colonies. A neatly made nest, placed under a large stone, had young almost fully fledged at the beginning of July. We had the pleasure of hearing its sweet little song spoken of with so much delight by the northern voyagers. The second bird, not known I believe to breed in Britain, is the Purple Sandpiper, *Tringa maritima;* this appears to be the Fiadl Murra of one of the older writers on the Birds of Faroe, for we found it breeding on the summits of the mountains in small numbers; young just fledged at the end of June.

Of the Raven, *Corvus corax*, I saw the black and white variety, which has been called a species under the name of *C. leucophæus;* but two were shown to me alive which came out of the same nest with purely black ones; they were marked irregularly and differently from each other, and had none of the characters of a species. The Raven, but still more the Hooded Crow, is almost a domestic bird in Faroe, and very abundant. The Common Snipe, *Scolopax gallinago*, is remarkably tame, and may be seen feeding near houses, and within a few yards of men; it is in considerable numbers. I looked in vain for *S. gallinula*. The Whimbrel, *N. phæopus*, struck me as being one of the most characteristic birds of the island, for it is very abundant, and entirely replaces the Curlew of the Highlands, as it only very partially does in Shetland. It was constantly flying round us just out of shot, in company with the noisy Oyster Catchers, and occasionally Golden Plovers.

The Red-necked Phalarope, *P. hyperboreus*, we only found in one remarkably swampy little valley, where also bred Dunlins and Golden Plover — the former called in Orkney, Plover's Page, from their habit of attending the Plovers in their flight — Arctic Terns, and the year before we were there, we were told a pair or two of Black-headed Gulls, probably *L. ridibundus*, frequented it. On the margins of the deep pools in this district, we found the nests of *Colymbus septentrionalis*, raised in a remarkable manner to the height of a foot, reminding us of the Swan's nests on the banks of the Thames, a practice I had not seen before in the nidification of either of the *Colymbi* whose nests I know; and here was an adaptation to circumstances, for the water was on a level with the surrounding moss.

The Eider Duck, *S. mollissima*, has of late years been provided with little houses to build in on certain islets; but the great Gulls, *L. marinus*, still rob many of their eggs. The quantity of down procured in the Faroe Islands is very inconsiderable.

The three birds which principally tempt the inhabitants to their feats of rock climbing, are the common Guillemot, *U. troile*, the Razorbill, *A. torda*, and the Puffin, *M. fratercula*; but the Razorbill is comparatively in small numbers, perhaps not more than one to twenty Guillemots. The Puffin is by far the most numerous of the three, and swarms in an almost incredible degree. A hand net, made like a small shrimp net, is raised for them to fly into as they pass; and the sudden exertion upon the grassy slopes gives occasion to many fatal accidents. In climbing for Guillemots with the help of ropes, accidents very rarely happen. All the mode of proceeding in bird catching is just as it was described by Luke Debes 250 years ago. We were shown a tame Puffin, which was known to be twenty years of age; it had lost the triangular plates round the eye. We saw several semi-albino varieties.

I was anxious to see whether there was one or three species of Guillemot in the Faroe Islands as has been said. I could not distinguish there any *Uria brunnichii*, but the so called species *Uria lachrymans* was in plenty, as I had also found it in Caithness, Sutherlandshire, and the Shetland Isles. It was amongst the other Guillemots in the proportion of perhaps one to ten; it lays a similar egg, as I ascertained myself in several instances; it was of both sexes, and not as the natives thought, of one sex; some of them saying it was the male and some the female. I did not find out whether or not they paired together; but I could not see any thing to lead me to suppose that there existed a specific difference. We should bear in mind that very nearly similar markings about the head, or their absence, formerly led to the making two species of *Alca torda*. Mr. Gould, though he has figured *Uria lachrymans*, doubted its value as a species, but M. Temminck and Mr. Yarrell consider it distinct.

The Black Guillemot, *Uria grylle*, the Sea-pigeon or Dovekie of the Arctic expeditions, is characteristic of the north, but it extends to the islands of the north of Scotland, and even to Ireland and Wales it is said. It lays two eggs, under stones, not far above the sea. When it has young, on the approach of an intruder, it sits, making a plaintive noise like that of the Robin.*

Of the two species of Cormorant I may remark, that the young is considered almost the best of the sea birds; and my friend and myself agreed that it made by no means a bad dish; but I must state, that our only alternative at that time was dried mutton or whale's flesh. Guillemots, too, and their kindred, are very eatable when properly cooked; and we had the opportunity of tasting them at a clergyman's, where were some very good things with which to form a comparison. Gulls are very inferior, but the reported best birds of all, young Shearwaters, we had not the chance of tasting. Of the young of one of the Cormorants we saw a remarkable monstrosity; it had four legs, two of which were combined into one, situated centrally and posteriorly; it was much shorter than the others, and useless. Unfortunately the body had been ate the day before; the skin was to be sent to Copenhagen.

The Soland Goose, called *Sula* by the Faroese, and *Jan van Gent* by sailors according to Landt, whence perhaps our name of Gannet. This bird occupies one large rock, the west end of the Faroe Isles; for the Shetland and Orkney Isles it has the Sule Skerry, which is thirty miles to the west of Orkney. It has selected St. Kilda, off the Hebrides, and it has chosen too that most central situation, Ailsa Crag. It is also said to occupy Lundy Island in the Bristol Channel—I know not how truly. Lunde is the Faroese name for the Puffin. A Gannet rock is mentioned off the south-west of Ireland. On the whole east coast of Britain, its only station is the Bass Rock in the Firth of Forth. The name *Sula*, I was told, has a reference to its quickness of sight. It is worthy of note, that each nation modifies the root of a name to some signification in its own language, as Mr. Strickland has admirably illustrated in his etymology of the word *Dodo*. *Sula* is Soland, *Jan van Gent* is Gannet, and perhaps both these last from the German *Gans*, as it has been lately suggested to me. We must also bear in mind, that the appellation of one bird is frequently put on the shoulders of another, as often illustrated in our colonies. Probably the name *Shelder*, which in Shetland and the Faroe Islands is applied to the Oyster Catcher, from its shell eating propensities, has been shifted to the *Sheldrake* (*Tadorna vulpanser*), just as the name Hoody Crow is applied to the *Larus ridibundus* in Orkney. So *Lombvia* is the Faroese name of *Uria troile*, *Loon* the local English of *Podiceps* or of *Colymbus*.

---

* It used to breed upon the Isle of May in the Firth of Forth. We have shot it there and taken the young from the nest.—W. J.

Sterna arctica appears to be the Tern which Graba described as peculiar to the Faroe Islands, under the name of *S. brachytarsa*. It was in some numbers, breeding very late. I found no other species.

In the only two spots where that noble bird, *Lestris catarrhactes*, now breeds in the British Islands, it is preserved only by the utmost vigilance of the proprietors, one of whom, Mr. Edmondston, has succedeed in recovering the stock, after it had been reduced to a single pair in Unst. But in Faroe its breeding places are numerous, though its preservation demands great self control on the part of the people, for its attacks upon any one approaching its nest are most irritating. Its blows are aimed at the head, with the full momentum of the bird's body; and it returns again with the most steady intrepidity imaginable. My friend, who got one thump, took constant and special care to avoid a second; it is only necessary to carry a ramrod or other stick over the head, to prevent the swoops taking full effect. The protection afforded to it lasts only during good behaviour; when a colony is becoming too large, some of them are apt to begin to attack lambs; they are then doomed to the infliction of a battue, which is supposed to act as a warning to the survivors for some years to come. It is said, that only a few individuals acquire this bad habit, but it then grows upon them, just as in the Scottish Highlands it is a single fox or eagle which gets into the way of carrying off lambs, but which evil disposed one gives a bad name to, and is the death of many of its innocent brethren.

The Skua is one of the birds of which a certain number of heads is required to be given in by every inhabitant annually, by an old law or custom, which reminds one of the mode in which Egbert endeavoured to extirpate wolves in Britain. I do not know whether this is now strictly enforced, but I have seen the people collect heads, when they had an opportunity, either of this bird, or of the Raven, or the Great Black-backed Gull, that is, when they were ready killed for them. I heard that several heads of the Hooded Crow, or Richardson's Skua, might be substituted for one of the larger birds. Skua is the Faroese name of the bird. Richardson's Skua is called Shooï, which I was told has the same meaning as the Greek διαβολος; *Scouti allan* is the somewhat similar name, but as in cases I have before mentioned, one with a different meaning used in the north of Britain. *Scouti* is said to have reference in Gaelic to its dirty mode of feeding, *allan* being a common name for several birds, as Allan Yasker is the Osprey or Fishing Allan. In Faroe, Richardson's Skua is also, and more commonly, called Kjegva; sailors know it as the Boatswain.

I have to record a very interesting fact with respect to the Fulmar, *Procellaria glacialis,* which has recently adopted some of the cliffs of the Faroe Islands as a summer station. In the time of Landt, who wrote in 1799, it was only known to those who fished far from the shore, but somewhere about the year 1839 it was observed by the rock climbers breeding, for the first time, near Quelboe in Suderoe, and it has since much increased, and is scattered over several spots on the west cliffs of the islands of Skuoe and Great Dimon; in the latter place, the face where it builds is of great height and quite perpendicular, and the ledges are very small and bare. Eight or ten of the nests that I examined consisted of a few small fragments of rock lining a slight depression. The featherless abdomen of the bird is hollowed into a perfect egg cup shape during incubation, so that the single large egg has the warmth applied to it in the most effectual manner.

I will not attempt to speculate on the reason of this remarkable change of locality, in a bird supposed to be so constant in its attachment to certain breeding places. It is not found in Shetland or Orkney. St. Kilda is perhaps its only British and also its most southern station. It is, however, said to breed in the island of Barra, perhaps not South Barra, but Bara and Rona, two rocks far to the north of Cape Wrath and the Lewes, whose position was ascertained with accuracy in one of Parry's Arctic Voyages. The Westmanna Islands, where the Fulmar is described as so abundant, are to the south of Iceland, and not in Faroe, as Mr. Yarrell inadvertently states.

Thalassidroma pelagica lives in any hollow or burrow, even under the floor of a barn. It is in many localities, breeding late in July. I looked in vain for the nearly allied species, *T. leachii*, which is found in St. Kilda.

Of the birds in my third list, I have to say, that I made the most diligent search and inquiry for them.

Colymbus glacialis is believed, as in the north of Britain, to hatch its egg under its wing, so it is not likely that it ever bred in Faroe.

Mergulus melanoleucos is stated to breed in the northernmost of the Faroe Isles, certainly through some mistake. I could neither find it any where, nor hear of any one who had seen it in summer. Even in Iceland I believe it is only known to breed in one island to the north, which lies on the arctic circle. It is a truly arctic bird, far more so than *Uria grylle*.

About *Alca impennis* I made inquiries whenever I had opportunity, but I could learn very little. An old man, Paul Joënsen, had seen one fifty years ago, sitting among the Hedlafuglur, that is young Guillemots and other birds upon the low rocks, and old men told him it was very rare. This was about the time when Landt wrote. Old people have been heard to say, that formerly, when many of them were seen, it was considered a sign of a good bird year, which we may perhaps explain, by supposing that the same kind of weather which prevented *A. impennis* going to the north, also kept more of his congeners from their far northern breeding places. A Gorrfuglur was formerly valued at four Lombrias or Guillemots, when one happened to be caught amongst the Hedlafuglur.

I saw Daniel Joënsen, captain of a vessel belonging to Governor Löbner, which went in 1813 to fetch provisions from Iceland to the half-starved Faroese, and brought back some fifty or sixty of the Gorrfugle amongst other birds. They got them on one of the small rocks which the natives were afraid to visit, near Iceland. With respect to this name, Geirfugla of Iceland, Garefowl of St. Kilda, and Gorrfuglur of Faroe, I could hear no more than a supposition from Sysselmand Winther, that it was taken from the voice of the bird, for such a noise as that made by *Larus marinus* is called *gorra*. It perhaps has a common signification with Gyrfalcon. Wormius, in the sixteenth century, had one sent to him from the Faroe Islands, which he kept alive for several months. Hoier describes the Goirfugle about the same time, and Ray or Willughby saw specimens in the Royal Society's Museum, and also in Tradescants. There are four islands marked in Olsen's large and beautiful map of Iceland, which are called after the Geirfugla; namely, Geirfugla Sker, and Geirfugla Drangr, off Cape Reikianes, the south-west point of Iceland, Geirfugla Sker, to the south of the Westmanna Isles, and another Geirfugla Sker, to the east of Iceland. This last is also called Hvalsbak, and the form of a whale's back would be a very convenient one for the *Alca impennis* to climb up and breed upon. I give all these particulars, as the *Alca impennis* is now looked upon by ornithologists with so much interest as so very rare a bird — so rare indeed, that it has even been suggested that it is extinct. This, however, is not likely to be the case, even without considering the probability of its being found on the Labrador coast. A friend of mine, who visited Iceland three years ago, met with the same fear amongst the natives, about trying to reach these far seaward and whirlpool beset rocks, that the Faroese found on their visit in 1813. But small numbers, both of the eggs and birds, have from time to time been sent from Iceland to continental Europe.

Of birds which are said formerly to have bred in Iceland, I heard of the Eagle, the Wild Goose, and the Swan.

The Eagle, no doubt the Sea Eagle, *A. albicilla*, which is the only one found in Shetland and in Iceland, and which still occasionally is killed in Faroe in the winter. The point of rock on the Tindholm was pointed out to me where the Eagle had its nest, to which it carried off the child, according to tradition, as related by

Landt. I think it probable that these stories, so prevalent in all countries where Eagles are found, are many of them true, and not referrible to one common tradition as has been supposed. I have heard in the Highlands several confirmatory particulars.

Wild Geese formerly bred in Faroe if not now, and Wild Swans by tradition in two places, each called Oknadal, from this circumstance.

I will not now attempt to compare the ornithology of Faroe more closely with that of the north of Scotland and its islands. Numerous species are absent, and even the ubiquitous Sparrow is there unknown, but there are no doubt many stragglers beyond those which we happened to see.

We cannot conclude this subject better, than by deriving a lesson from the simple and happy people of the Faroe Islands, in their treatment of the birds which surround them. It is a melancholy thing, to see how at almost all the great breeding places of sea-fowl round Britain, the numbers are rapidly diminishing every year, in consequence of the pitiless persecution which afflicts them—slaughtering parties visit them by trainfuls. The rights of the bird climbers established by long usage, require the assistance of the law; and all persons concerned in the coast navigation, should interest themselves to procure, by Act of Parliament or otherwise, protection for sea-fowl at those places, or at that time of year when they throw themselves entirely upon the mercy of mankind, for by such protection alone can their sure and speedy extirpation be averted; and one of the best kind of beacons, the flight and the clamour of birds, be preserved, to warn vessels in foggy weather of their approach to the dangerous headlands of our coast. There are several lighthouses at which the value of the sea-fowl is properly appreciated; and these, with the Bass Rock and Ailsa Crag,* afford happy exceptions to the general rule, and show what may be done. The numbers are not seriously lessened by legitimate bird-catchers any more than in the case of Poultry in a farm yard.

---

* We regret to say the Bass Rock is not an exception. In the summer of 1848, the last time we visited it, two parties in boats, at about a quarter of a mile distant, were shooting the Geese in mere wantonness, allowing them to float unlifted. It is well known, that they approach any boat which comes near their haunts, and that when one is killed, numbers assemble and hover over it, and this habit is taken advantage of by those would be or rookery sportsmen. The Bass used to be a favourite place for us to visit from 1816 to 1820; and on revisiting it in 1848, the numbers of sea-fowl had very visibly decreased. We cordially agree with Mr. Wolley's suggestion for their preservation during the breeding season.—W. J.

NOTE

ON THE

RECTRICES OF *VIDUA PARADISEA.*

(CONTRIB. ORN. 1850, p. 88.)

ABOUT three months after my notice of the remarkable structure of the submedial rectrices of *Vidua paradisea* was printed, I was not a little surprised to find that this peculiarity had been long since described and figured by that exceedingly accurate observer, Brisson. In his Ornithologia, vol. iii. p. 123, after describing the submedial pair of rectrices, he adds, "Ex alveolo à quo hæc ultima rectrix oritur, gracillimum exit filum, rectricis longitudinem ferè adæquans, cui rectricis pinnularum exteriorum apices arctè cohærent." No description can be more exact than this [*]—and in his Plate viii. fig. 1, he has correctly represented the attachment of these filaments to the web of the feather. One might have expected that so unique a structure would have induced Brisson to dilate a little regarding it, but he was too dry a describer to indulge in any philosophic reflections; and this extraordinary structural phenomenon has apparently remained unnoticed by any subsequent observers, till a recent examination of a series of specimens from Cordofan drew my attention to it.—*H. E. Strickland.*

---

[*] In my description, I have inadvertently stated, that the filament adheres to one (generally the *inner*) side of the feather. On re-examining the specimens, I find that I should have said "generally the *outer*" side, conformably with Brisson's statement. In the Plate (lix.) fig. 1, *a* is the *interior* and *b* the *exterior* web.—*H. E. S.*

THE DODO

AND THE

PRESUMED EXTINCT BIRDS OF MADAGASCAR AND THE MAURITIUS, &c.

THE remains of the Dodo were long popularly known in Oxford and in the British Museum, and although generally talked of by the public, and latterly attempted to be ranged in most general systems of Ornithology, it was not until the model-monographic and historico-physical investigations of Mr. Strickland and Dr. Melville appeared, that the real interest in the subject arose. It was one of our main objects, these gentlemen write, to draw the attention of others to this subject: "Many a curious scrap of Dodo-knowledge is doubtless still buried in the holes and corners of libraries, museums, and picture galleries, and many a precious bone-fragment still moulders in the caverns and alluvions of the Mascarene Islands." The same views have induced us now to place together the information, that Mr. Strickland has collected since the publication of the "Dodo and its Kindred," with any other that has occurred, in the hope that it might come before individuals placed in or near these islands, and be the means of attracting them to do what they can to clear up the true form and habits of those remarkable birds. Man, and the animals trained by him to the chase, have been the means of extirpating or driving away to more retired haunts, those birds not provided with the powers of flying, and where the locality has been insular, this is more easily and rapidly accomplished. Such has been the case with the gigantic birds of New Zealand, now dwindled down to a few rare specimens of the unobtrusive Apteryx. The Emu of Australia is flying before the settlers, and an Ostrich cannot now be seen within hundreds of miles of the Cape. At the same time, as our information of the interior of large islands has become more extended, there are apparent indications that some other brevipennate birds do still exist. A second species of Apteryx has been discovered in New Zealand; and a late letter from a correspondent to Mr. Blyth in Calcutta, mentions, that *A. owenii* was so abundant in some parts of the Middle Island, as to have served the party for food; if any settlement should take place there, the speedy extirpation of a creature so helpless may be predicted. Extracts from the letters of Mr. M'Gillivray, published in our last part, mention the discovery of a Cassowary on the north-east coast of Australia, a district hitherto very little explored; and traces of the existence of a large wingless bird in the interior of Madagascar, have reached this country, in accounts from the natives, of their being hunted down with dogs, which the information collected by Mr. Surtees, printed in the Annals of Natural History, as well as the notices from the Mauritian Gazette, which we now also print, tend to confirm.

The following additional remains of parts of the Dodo and Solitaire have come to light since the publication of the "Dodo and its Kindred," and have been noticed from time to time in the "Annals."

Mr. Strickland convicts Oxford of having been the grave of two Dodos. In the original autograph diary of Thomas Crossfield, extending from 1626 to 1640, is the following curious passage:—

"1634. SPECTACULA OXONII IN HOC ANNO.

"The story divided into 5 or 6 parts, invented by Mr. Gosling, sometime schollar to Mr. Camden, enginer, who *bestowed the Dodar, a black Indian bird, vpon y^e Anatomy Schoole.* His wife dying, left him some meanes in a chest, w^ch a maide servant, cunningly getting y^e key of her master, conveyed away, and soe he now glad to get his livinge by vsing his wits for such inventions."

The Ashmolean Dodo was in Tradescant's private collection at Lambeth in 1656, and was not transferred to Oxford until 1683. Two Dodos have therefore existed at successive periods in the venerable repositories of Oxford University.

The officers of the Royal Society of Arts and Sciences of Mauritius, discovered in the cabinets of their museum, two bones, which they have, with praiseworthy liberality, sent to Europe. They belong not to the true Dodo, but to the longer legged species, the Solitaire, which inhabited the island of Rodriguez.

These are metatarsal bones, and confirm Mr. Strickland's views of the affinity of the Dodo to the Pigeons, by supplying some parts which were wanting in the specimens figured in the "Dodo and its Kindred."

Mr. Sclater, on his recent return from the continent, writes to Mr. Strickland: — "In the Böhmischen Museum at Prague, there is the veritable skull of the Dodo; that is, all the frontal portion, just as much as we would leave in preserving a skin." M. Max. Dormitzer, assistant to the museum, stated, "that it was found among some rubbish, and that it was a long time before they made out what it was."

Mr. Strickland states (p. 61, Dodo and its Kindred), that Flacourt, in his History of the Island of Madagascar, had mentioned the circumstance that a large brevipennate bird, *Vouron patra*, "a kind of Ostrich, frequented the region of Ampatres, a province in the south extremity of Madagascar." That this may still exist in the interior, is probable from the reports recently received; and its ancient existence bears authority both from the information sent by Mr. Surtees, and from the paragraph alluded to from the Mauritian Gazette. The first, communicated by F. R. Surtees, Esq., Her Majesty's Commissioner of Arbitration at the Cape of Good Hope, is as follows: — "It appears, that in October, 1848, when H. M. S. Geyser was cruising off St. Augustine's Bay, Madagascar, a French gentleman, named Dumarecle, who was a passenger on board, gave the following account, which is extracted from the private journal of Mr. John Joliffe, surgeon of the Geyser: — 'After giving an account of some curious monkeys, with white shining silvery hair, M. Dumarecle casually mentioned, that some time previously, when in command of his own vessel, trading along the coast of Madagascar, he saw, at Fort Leven, on the north-west end of the island, the shell of an enormous egg, the production of an unknown bird inhabiting the wilds of the country, which held the almost incredible quantity of thirteen wine quart bottles of fluid! he having himself carefully measured the quantity. It was of the colour and appearance of an Ostrich egg, and the substance of the shell was about the thickness of a Spanish dollar, and very hard in texture. It was brought on board by the natives, the race of 'Sakalavas,' to be filled with rum, having a tolerably large hole at one end, through which the contents of the egg had been extracted, and which served as the mouth of the vessel. M. Dumarecle offered to purchase the egg from the natives, but they declined selling it, stating, that it belonged to their chief, and that they could not dispose of it without his permission. The natives said, the egg was found in the jungle, and observed, that such eggs were *very rarely* met with, and that the bird which produces them is still more rarely seen.' "

The following is the notice in the newspapers previously alluded to:—The Calcutta Englishman, of August 1850, writes, "We have received Mauritius papers to the 13th ult. The 'Mauritian' mentions, on the authority of a Bourbon journal, that a singular discovery has been made in Madagascar. Fossil eggs, of an enormous size have been found in the bed of a torrent. The shells are an eighth of an inch thick, and the circumference of the egg itself is two feet eight inches lengthways, and two feet two inches round the middle. One which has been opened, contains eight-and-a-half litres, or about two gallons! What was to come out of these eggs? Bird or crocodile? The natives seem to be well acquainted with them, and say, that ancient tradition is uniform as to the former existence of a bird, large enough to carry off an ox. This is only a little smaller than the Roc of ancient fable, which waited patiently till he saw the elephant and rhinoceros fighting, and then carried off both at one stoop. Some fossil bones have been found in the same place as the eggs. The Bourbon editor says, he will leave it to the pupils of the great Cuvier to decide to what animal they belong. If they should prove to be the bones of a bird of a size corresponding to the eggs, the discovery will indeed be an extraordinary one."

From these notices, it will be seen, that the "Dodo and its Kindred" has been the means of drawing attention to the subject; and we trust, that the officers of H. M. S^{s} on the station which includes Madagascar, Mauritius, Bourbon, and Rodriguez, will use their endeavours to trace out the subject. Let them take every opportunity of questioning the natives or Europeans who have been long resident in the islands, as to the former or present existence of birds that cannot fly, whether large or small; and look among the native dresses and ornaments, for such as are manufactured from feathers or bones which they cannot now procure, or which are very rare and much esteemed. Let them examine the old proceedings of societies, or papers relating to them—files of old newspapers, the earliest published in the island if possible—inquire after, and seek out old official papers that may be still existing in some of the public offices; and if any of the men of law, who, we presume, exist there, possess any old documents relating to the early state of the country and its possessions. The remains of bones have hitherto been found in caverns, on the floors, covered with mould. New caves should be sought for, and their floors examined; excavations should be made at different points in alluvial deposits—in the beds of streams, where bodies floating down were likely to be deposited; and the ruins of old habitations or camping places, around the fires, &c., should be strictly searched. These remarks refer most to the three smaller islands. In Madagascar, the same, so far as possible, should be followed out; and as the field is wider, every method which the ingenuity of the explorer, or the nature and circumstances of the country suggest, should be tried; and we scarcely doubt, that perseverance will be attended with success.

ORNITHOLOGY

OF THE

COASTS AND ISLANDS OF WESTERN AFRICA.

By Dr. HARTLAUB.

We have been long interested in the Ornithology of the Western Coasts of Africa and its Islands, and every collection that is received, however small, testifies to the value of increased research; while our almost constant intercourse with that coast, both by means of our regular and commercial navy, induces us to bring forward all the information we can, as an assistance to those who may be willing to lend their aid. Dr. Hartlaub, of Bremen, has kindly sent to us a paper on the Ornithology of Western Africa, which he has drawn up for the Academic Gymnasium of Hamburg. It appears that a portion of the funds of that institution are set aside under the management of a committee, for the advancement of Natural History, and a scientific traveller is from time to time sent out to explore some little known or interesting region. The introductory observations by Professor Wiebel will best explain this:—

"Although for centuries the West African Coast and Islands have at many points been taken possession of by Europeans, and visited by ships without number, yet they are so little known in reference to natural history, that the Association for Natural Science in this country, and the museum committee, have especially taken upon themselves to employ in the interest of science, the mercantile expeditions which sail from this port, so far as their own power and the readiness of the freighters and captains allow. The Association found a support in this endeavour, well worthy of thanks, in the munificence of the Portuguese consul-general, Mr. Ribeiro dos Sanctos, who offered them a free station and passage for a naturalist, to be sent out in one of their ships which sailed in the end of June, 1841, to the Portuguese possessions on the Western Coast of Africa. The great expectations joined with this magnanimous attempt, were, alas! not to be fulfilled, as our traveller, Mr. Wrede, fell a victim to the fatal fever of the climate, at Novo Redondo, a few weeks after his arrival in Benguela, which also carried off the honoured leader of the expedition, Mr. Ribeiro dos Sanctos himself, on the 16th January, 1842.

The museum committee received an equally kind offer on the part of Mr. Epffenhausen, in the spring of 1847, for the equipment of Mr. H. Weiss, who in June of that year sailed for the west coast, in the ship Adolphus. His instructions directed him at first to the investigation of the group of islands lying in the Gulf of Guinea, the zoology and botany of which are still so little known, although much peculiarity is to be expected from their position and formation, and their healthy climate is not perilous to the life of the European like that of the coast; but by accustoming him to the peculiar modes of life in a warm zone, it teaches him to protect himself against the hurtful influence of coast fever. Our traveller arrived on the 20th August, 1847, at the Portuguese island of St. Thomas, from thence, a very favourable opportunity presenting itself, he made a trip to the Gold Coast, and returned by Prince's Island to St. Thomas. The three packages received from him up to this time, confirm our supposition, that still much may be gained here for science, of the most valuable kind; and the museum of natural history has been put in possession of many novelties, particularly in the department of Ornithology, the descriptions of which have been undertaken by Dr. G. Hartlaub in Bremen, corresponding member of our Association for Natural Science."

Dr. Hartlaub has taken great pains in consulting the various authorities who have noticed the species from these regions of Africa, and has drawn up a list, amounting to no less than 505 * species, adding to each the locality and authority for it, together with their distribution in the north and south of the continent or in Europe. These observations, on their geographical distribution, will be read with interest by every Ornithologist.

"The zoological collections which have arrived at the Hamburg Museum, from the traveller Carl Weiss, in two different consignments from the Western Coast of Africa, present enough of new and interesting facts in the field of Ornithology, to join with them some general observations on the birds of this region. These collections were principally found in three localities; namely, on Prince's Island and St. Thomas', both situate near the Equator, and at Elmina on

---

* In the Prince of Canino's Conspectus Avium, sixteen birds are mentioned from Western Africa, which are not in Dr. Hartlaub's present list—increasing the number recorded as from these regions to 521.

the Gold Coast. Only a few species come from Wineba, Accra, and Anamaboe. The following are the birds sent by Weiss:—

ST. THOMAS' ISLAND.

1 *Milvus ægyptius*, Gm.
2 *Athene leucopsis*, Nob.
3 *Cypselus abyssinicus*, Licht.
4 *Coracias garrula*, L.
5 *Alcedo cæruleocephala*, Gm.
6 *Zosterops lugubris*, Nob.
7 *Turdus olivaceofuscus*, Nob.
8 *Drymoica ruficapilla*, Fraser.
9 *Muscipeta atrochalybea*, Thomp.
10 *Onychognathus fulgidus*, Nob.
11 *Ploceus grandis*, Fraser.
12 *Euplectes erythrops*, Nob.
13 *Sycobius st. thomæ*, Nob.
14 *Spermestes cucullata*, Sw.
15 *Psittacula pullaria*, L.
16 *Chalcites smaragdineus*, Sw.
17 *Turtur simplex*, Nob.
18 *Treron abyssinica*, Lath.
19 *Numida rendallii*, Sw.
20 *Coturnix histrionica*, Nob.
21 *Ardea thalassina*, Sw.
22 *Ardea bubulcus*, Sav.
23 *Ardea gularis*, B.
24 *Numenius phaeopus*, L.
25 *Gallinula chloropus*, L.
26 *Phalacrocorax africanus*, Gm.

PRINCE'S ISLAND.

1. *Dicrurus modestus*, Nob.
2. *Lamprotornis ignita*, Nordm.
3. *Spermestes cucullata*, Sw.
4. *Halcyon torquata*, Sw.

ELMINA—(Wineba, Accra, Anamaboe).

1. *Cypselus abyssinicus*, Licht. (Anamaboe)
2. *Alcedo picta*, Bodd.
3. *Merops albicollis*, Vieill. (Wineba)
4. *Merops bicolor*, Daud.
5. *Merops erythropterus*, Gm.
6. *Nectarinia cyanocephala*, V.
7. *Nectarinia splendida*, Sh.
8. *Nectarinia chalybea*, L.
9. *Crateropus platycercus*, Sw. (Accra.)
10. *Cossypha verticalis*, Nob.
11. *Platysteira melanoptera*, Gm.
12. *Muscipeta laticauda*, Sw.
13. *Campephaga phœnicea*, Lath.
14. *Telephorus senegalus*, L.
15. *Laniarius gambensis*, Licht.
16. *Laniarius barbarus*, Sh.
17. *Laniarius major*, Nob.
18. *Laniarius leucorhynchus*, Nob.
19. *Ploceus textor*, Gm.
20. *Euplectes oryx*, L.
21. *Corythaix buffonii*, V.
22. *Pogonias vieillotii*, Leach.
23. *Macronyx flavigaster*, Sw.
24. *Hoplopterus inornatus*, Sw.
25. *Glareola pratincola*, L.
26. *Charadrius minor*, L.
27. *Charadrius bitorquatus*, Licht.
28. *Charadrius marginatus*, V.
29. *Himantopus vulgaris*, *V.* (Accra.)
30. *Parra africana*, Gm.
31. *Sterna minuta*, L.

Among these fifty-nine species, eleven appear marked as new and hitherto undescribed.

The birds collected at St. Thomas, have a peculiar interest, from the circumstance, that with the exception of *Ploceus grandis*, brought home and described by Fraser, no other from that place has hitherto come to the knowledge of the scientific world. That among the twenty-six hitherto known species of this island, nine are found which have never been met with in any other locality, is at all events a circumstance worthy of remark, although not solitary among the fauna of islands. The occurrence, although rare, of our *Coracias garrula* at St. Thomas, where the bird, according to the observation of the collector, was known by nobody, is remarkable enough, for the distribution of this European bird, so far as known, does not extend over the northern parts of Africa. Of the remaining species of this island, named above, *Muscipeta atrochalybea* has only as yet been observed at Fernando Po. *Numenius phæopus* and *Gallinula chloropus*, are cosmopolites, the occurrence of which is not remarkable on an equatorial island.

Among the four birds collected by Weiss on Prince's Island, two appear to belong to it peculiarly, namely *Lamprotornis ignita* and *Dicrurus modestus*, if our conjecture be not confirmed, that the latter is identical with *D. erythrophthalmus*, observed by the Duke of Würtemburg in Sennaar, but not yet described.

Weiss collected thirty-one species at Elmina. Only two of these, both belonging to the genus *Laniarius*, appear on closer comparison to be new. However, this collection is not without interest in other respects, *Merops bicolor*, Daud., and *Muscipeta laticauda*, Sw., are among the more remarkable species. The former, hitherto very rare in collections, is a species of the genus *Merops*, distinguished by its completely anomalous colour, which as yet has only been collected by Perrein in Congo, a very distant locality; the latter is a small typical species of the genus *Muscipeta*, found numerously in Asia and Africa, which Swainson, supposing it to be from New Holland, has described and figured as a *Myiagra*. A species of *Cypselus*, collected by Weiss at Elmina and on St. Thomas, is found to agree with *C. abyssinicus*, Hempr. Ehrenb., lately described by Streubel.

Under West Africa, as a zoological province, is to be classed Senegambia in the most proper, and Guinea, in the widest sense of the word. Senegal, namely, forms to the north, somewhat abruptly, the boundary of the west coast which has been zoologically investigated; the wide range, from the river to 30° north latitude, has yet, so far as known to us, never been investigated by any zoologist. We could not name a single species of bird, the fixed habitat of which may be sought for with certainty on this extended line of coast. It must be of no small interest to be able to follow the transition of the variegated and glittering ornithology of the Senegal region, to the unadorned, and according to Drummond's and Schousboe's communications, quite European stamp of that of Morocco. On the south, West Africa is bounded not less naturally by Benguela; for, as the west coast of Senegambia and Guinea, in its whole extent abounding in rivers, marshes, salt and fresh-water lakes, in many directions hilly, and in a great proportion covered with impenetrable forests, becomes northwards from Senegal, a dry coast, poor in vegetation, with a desert character; so, on the other side, the luxurious wooding of marshy Benguela seems towards the south almost suddenly to cease, and the farther stretch of coast to the Great Fish River, is arid and unfruitful. The ornithology of the West African Coast, thus limited, belongs, as may be seen from the above mentioned physical condition, to the brightest and most variegated of all zones. With reason Swainson reminds us of the corresponding forms of the opposite coast of South America — how there, the many coloured species of *Tanagra* and *Pipra*, *Icterus* and *Ampelis*, but above all, the charming Humming-birds, sparkling in the metallic glow of all colours (of which about 300 species are already known), help to enliven the rich landscape; while here abound the gayest and most wonderfully coloured species of the genera *Coracias*, *Merops*, *Alcedo*, *Lanarius*, *Oriolus*, splendid metallic-tinted *Lamprotornes*, *Chalcites*, and *Nectariniæ*, the beautiful forms *Musophaga* and *Corythaix*, lastly, numerous large and small *Fringillidæ*, often of very pretty and variegated colours, which fill the air and woods with their voice, and whose multiplicity and beauty excites a warm expression of admiration in the visitors of this country. The genera peculiar to Western Africa, are one *Gypohierax*, one *Chelictinia*, one *Chaunonotus*, two *Spermospiza*, two *Nigrita*, one *Onychognathus*, one *Musophaga*, one *Picathartes*. Hitherto the genus *Podica* has been described as quite exclusively West African; a second species was discovered not long ago in Malacca. The family of the *Trogonidæ*, represented in South and North East Africa by one and the same species, is wanting in West Africa. On the other hand, there is found only here the single species yet discovered in Africa, of the gorgeously coloured genus *Pitta*, numerously represented in Asia and Australia. The same is the case with the Cuckoo-form *Zanclostomus*, analogous to the American *Coccyzus*.

The West African genera, *Melænornis* and *Ptilopachus*, Rüppell found also in Abyssinia, whilst the distribution of the genera *Corvinella* and *Pyrenestes*, indigenous to Western Africa, extends also only over the south of this continent. If one would, in order to add to this, assume for certain generic forms centres or issue-points of distribution, such seem to be required for the genera *Nectarinia*, *Trichophorus*, *Laniarius*, *Sycobius*, *Numida*, and perhaps some others in Western Africa. Of the 494 species cited in the following catalogue, Western Africa has only 103 common with Eastern Africa, 40 with Southern Africa, and 57 with both. Hitherto about 47 species of European birds have been observed there; amongst them are 28 species of the order of *Grallæ*, L.; nearly 300 species may be considered as peculiar to Western Africa. A tabular list, arranged by families, will illustrate this.

I. RAPACES, 30 SPECIES.

Vulturidæ,	2	Species.	Thereof peculiar to W.	Africa,	1	Species.
Falconidæ,	19	,,	,,	,,	2	,,
Strigidæ,	9	,,	,,	,,	3	,,

II. PASSERES, L., 300 SPECIES.

Caprimulgidæ,	3	Species.	Thereof peculiar to W.	Africa,	1	Species.
Hirundinidæ,	9	,,	,,	,,	3	,,
Todidæ,	7	,,	,,	,,	2	,,
Alcedinidæ,	15	,,	,,	,,	10	,,
Meropidæ,	15	,,	,,	,,	7	,,
Upupidæ,	3	,,	,,	,,	1	,,
Nectariniadæ,	23	,,	,,	,,	19	,,

Lusciniadæ,	32	Species.	Thereof peculiar to	W. Africa,	27	Species.
Turdidæ,	29	,,	,,	,,	23	,,
Muscicapidæ,	17	,,	,,	,,	14	,,
Ampelidæ,	8	,,	,,	,,	3	,,
Laniidæ,	21	,,	,,	,,	15	,,
Corvidæ,	3	,,	,,	,,	3	,,
Sturnidæ,	12	,,	,,	,,	7	,,
Fringillidæ,	92	,,	,,	,,	64	,,
Colidæ,	2	,,	,,	,,	1	,,
Musophagidæ,	5	,,	,,	,,	5	,,
Bucerotidæ,	9	,,	,,	,,	6	,,

III. SCANSORES, 39 Species.

Psittacidæ,	8	Species.	Thereof peculiar to	W. Africa,	7	Species.
Picidæ,	19	,,	,,	,,	16	,,
Cuculidæ,	13	,,	,,	,,	7	,,

IV. COLUMBÆ, 14 Species.

Columbidæ, 14 Species. Thereof peculiar to W. Africa, 5 Species.

V. GALLINÆ.

Meleagrinæ,	3	Species.	Thereof peculiar to	W. Africa,	3	Species.
Tetraonidæ,	6	,,	,,	,,	3	,,
Pteroclinæ,	3	,,	,,	,,	1	,,

VI. STRUTHIONES, 4 Species.

Struthionidæ, 4 Species. Thereof peculiar to W. Africa, 1 Species.

VII. GRALLÆ, 72 Species.

Charadridæ,	16	Species.	Thereof peculiar to	W. Africa,	7	Species.
Ardeidæ,	32	,,	,,	,,	11	,,
Scolopacidæ,	17	,,	,,	,,	1	,,
Rallidæ,	7	,,	,,	,,	3	,,

VIII. ANSERES, 22 Species.

Anatidæ,	5 Species.	Thereof peculiar to W. Africa,	0 Species.
Procellariadæ,	1 ,,	,, ,,	0 ,,
Laridæ,	11 ,,	,, ,,	6 ,,
Pelecanidæ,	4 ,,	,, ,,	0 ,,

The value of these numerical statements is, of course, only approximate; but they may be sufficient, in connection with the following catalogue of species,* in some measure to give a distinct view of the great peculiarity of West African Ornithology, as well as its connection and alliance with that of South and North-east Africa. It is difficult to discover the reason that far more species belong in common to West and North-east Africa, than to West and South Africa. A comparative view of the physical construction of these different parts of the country gives but little explanation. Migratory habits give perhaps more, as has been proved by observation. The periodical migration of the Senegambian species, as Swainson has already remarked, has been shown to be towards the south of Africa. It is only in this way the fact can be explained, that Levaillant found *Lamprotornis œnea* and *aurata,* as well as *Laniarius barbarus* in the Namaqua country. Swainson's assumption that Barbary on the north, and Senegal in the south, bounds the distribution of this latter species, rests upon error. It is proved that no specimen of this bird has been observed north of Senegal; on the other hand, it is found along the whole coast of Guinea. As it is known in the class Mammalia, in the case of certain Antelopes, that of these, distinct but very nearly allied species, are represented at remote points of their peculiar countries, so a similar peculiarity is made known to us among the numerous examples of the birds of Africa. We are reminded of this in *Laniarius barbarus* (W. Afr.), *L. erythrogaster* (N. E. Afr.), and *L. atroccineus* (S. Afr.), as well as in *Prionops plumatus* (W. Afr.), *P. cristatus* (N. E. Afr.), and *P. talacoma* (S. Afr.), in *Corythaix buffonii* (W. Afr.), *C. leucotis* (N. E. Afr.), and *C. persa* (S. Afr.) Many species, indigenous to West, as well as also to North-east Africa, are only represented in the South by an analogous species, as for example, *Merops nubicus* and *bullockii*, the southern representatives of which are evidently *M. nubicoides* and *bullockoides*. The *Psittacus levaillantii*, indigenous to South Africa and Abyssinia, is identified by an exceedingly nearly allied species, *P. pachyrhynchus*, in Senegambia. That a great many species of birds of the west coast are migratory, has been lately fully confirmed by C. A. Gordon, in Jardine's "Contributions to Ornithology for 1849." A very valuable notice is to be found there, of about thirty birds, observed and collected by Gordon at Cape Coast. What makes this paper particularly interesting, is, that an account of the habits of the birds of Western Africa is communicated therein, the first and only one of any importance we can at present remember.

---

* We have not printed the catalogue.

If we cast a glance on the special distribution of the single orders in Western Africa, the birds of prey are tolerably numerous; among them we meet with the rare and interesting genera *Gypohierax* and *Chelictinia*, the latter an analogous form of the American *Elanoides*. The strikingly small representation of the Vultures, a family which, by the numbers and size of individuals of their numerous race, fill an important place in African zoology, must be due to the want of high open rocky mountains, as well as of steril plains in Western Africa, both of which form the favourite place of residence of birds of the Vulture species in other regions of this part of the world.

Of the great order *Passeres*, about 300 species are known in Western Africa. The genera *Coracias*, *Alcedo* (L), and *Merops*, are characteristic by their number of species and richness of colour, the latter by certain species of remarkable beauty (*M. gularis*, Sh.) *Halcyon acteon*, a bird not very rare at Sierra Leone, lives equally numerous on the Cape de Verd Island St. Jago (Forster, Darwin, Bennet). Of the *Nectariniæ*, Western Africa possesses about twenty species peculiar to it. The remarkable occurrence of a species of Pitta, *P. angolensis*, has already been mentioned. Among the remaining birds of the Thrush species, the genus *Trichophorus*, among the *Muscicapidæ*, the genera *Muscipeta* and *Platysteira* come in the foreground as characteristic. A remarkable species of this family is that described by Vieillot, as *Platyrhynchus musicus*, a bird of Angola, correctly raised by Lesson to the rank of a genus, and named by him *Bias*. The *Ampelidæ* also, represented in Western Africa by the genera *Dicrurus* and *Campephaga*, show a species interesting on account of its splendid and varied colouring, namely, *C. lobata*. Moreover, the genera *Laniarius* and *Lamprotornis*, found nowhere more rich in species than on the west coast, belong to the ornaments of African Ornithology; both can show a successive series of the most beautiful species, as for example, *Laniarius gutturalis*, *Lamprotornis ignita*, *splendida*, and *leucogaster*. As one of the most remarkable peculiarities of West African Ornithology, we may bring forward its extraordinary richness in birds of the *Fringillidæ*, of which more than eighty species are found in the genera *Ploceus*, *Textor*, *Euplectes*, *Sycobius*, *Vidua*, *Nigrita*, *Spermospiza*, *Pyrenestes*, *Estrilda*, *Amadina*, &c. To this may be added, that very many of this group, as for example, all the *Ploceinæ*, live in company, and are particularly numerous as individuals. The Larks and *Saxicolæ*,* found so rich in species in South and North-east Africa, number here only very few representatives, which is explainable from the character of the West African country. One of these, the small Lark-like *Pyrrhulauda*, is repeated in the Cape de Verd Islands. In conclusion, the last members of this order, must not remain unmentioned, as they include the most splendid ornaments of African Ornithology, namely, the beautiful genera *Musophaga* and *Corythaix*. *M. violacea* is one of the most beautiful, *C. gigantea* one of the most wonderful birds of all zones. Of the nine species of *Buceros* in Western Africa, *B. albocristatus*, Cass., standing next to *B. comatus*, deserves particular mention. The *Scansores* are only slightly represented by about forty species. Wagler has already shown the striking want of Parrots in Africa. Of the fifteen species which are known on this continent, not fewer than eight inhabit the west coast. As a dwarf form of the family of the *Bucconidæ*, represented by the genera *Pogonias* and *Barbatula*, we class *Pogonias sulcirostris* as a bird particularly characteristic of Senegambia. The only Woodpeckers known till now in Western Africa, belong to the smaller and more unobtrusive species of this form. The Cuckoos appear with thirteen species of the genera *Indicator*, *Centropus*, *Zanclostomus*, *Cuculus*, *Oxylophus*, and *Chalcites*. A species of this latter genus, *Ch. smaragdineus*, ranges with the most beautiful birds of Africa; at the same time, only very few of the West African *Scansores* occur in North-east, and still fewer in South Africa. The dove form is represented by fourteen species, the most numerous belonging to the genera *Treron*, *Turtur*, and *Peristera*. Only five of these appear to be peculiar to Western Africa; among them, the *Turtur simplex*, discovered by Weiss, and the *Peristera puella*, Schleg., very striking from its dark blood-red colouring. In the order of Gallinaceous birds, the genus *Numida* appears in the foreground, with some very beautiful and marked species, *N. vulturina* and *cristata*. A third species, *N. rendallii*, the most common in Senegambia, is distributed over the Cape de Verd Islands. West Africa is poor in the species of *Francolinus* and *Pterocles*. The dwarf form, *Ortyxelos*, is exclusively peculiar to it. *Coturnix histrionica*, the species of Quail discovered by Weiss on the Island of St. Thomas, may ultimately prove identical with the South African *C. delegorguei*. Bustards do not find their peculiar kind of country on the west coast of Africa; *Otis denhami* only occurs far in the interior. No order, next to the *Passeres*, is so rich in species in Western Africa as the *Grallæ*, L., of which twenty-two appear to belong peculiarly to it. We meet with numerous European species, even from the far north, as the *Limosa lapponica*. Among the *Charadriadæ*, occur the beautiful *Cursorius chalcopterus*, as well as three species of *Glareola*. Not fewer than eighteen species of Heron inhabit the banks of rivers and lakes, marshes and salt lagoons of the west coast, of which many only occur here, as *Botaurus leucolophus*, *Nycticorax cucullatus*, *Ardea sturmii*, *calceolata*, *typhon*. Next them appear the genera *Mycteria*, *Leptoptilos*, *Ciconia*, *Platalea*, *Anastomus*, *Scopus*, *Tantalus*, *Ibis*, of the latter four species. The family *Rallidæ*, on the other hand, is proportionally only slightly represented, and has only two species peculiar to Western Africa, *Corethrura pulchra* and *Podica senegalensis*. Among the strikingly small number of birds of the Duck species, which are known in Western Africa, *Nettapus madagascariensis* deserves particular mention, as well as the American *Dendrocygna viduata*, the specific difference of which, as *A. personata* (Duke of Würtemburg), we, after careful comparison of Brazilian and Senegambian specimens, cannot allow. That South Africa, so scarce in water, should be richer in Ducks than the region of the west coast, so full of lakes and rivers, is not easily explained; yet the more moderate climate of the former—more consonant to the *Anatidæ* must certainly not be overlooked as a cause. Although the new species of *Sternæ*, described in Western Africa by Swainson should be added, it is at least doubtful with regard to one of these. Perhaps it is only accidental that no species of *Podiceps* has yet been found there.

---

* Thienemann's remark, that the geographical distribution of the genus *Saxicola* shows a striking agreement with that of the genus *Erica* among plants (Fortpflanzungsgeschichte der Vögel, Number 5, page 238), certainly strikes one at first sight, yet on closer observation proves erroneous. For, independent of this, that the central distribution of the heaths and the Stonechats in South Africa in no way agree, the very numerous distribution of this genus of birds in the north-east part of Africa, so poor in heaths, cannot be brought into unison with such a view.

ILLUSTRATIONS OF ORNITHOLOGY.

OREOTROCHILUS, JAMESONII, JARDINE.

WE now give a figure of both sexes of the beautiful Humming Bird, the male of which we described at page 67–2 of our last volume. Since then we have received specimens of the female and young from Professor Jameson, a notice of which, with other Humming Birds from the same regions, will be found in the Ornithology of Quito of the present part. We have also attempted to represent with it the beautiful and very remarkable plant from which it is found principally to extract its food. Specimens of this and several other plants connected with the ornithology have been forwarded to us, rendering the collections doubly interesting, and these will be introduced wherever they in any way serve as food or shelter, or otherwise bear upon the subject.

IANTHIA RUFILATA, HODGSON.

Nemura rufilata, *Hodgs.*, Proceed. Zool. Soc., 1845, p. 27.—— Ianthia rufilata, *Blyth*, Journ. As. Soc. Beng., xvi. p. 132.—— ♀ Nemura cyanura, *Hodgs*, Proceed. Zool. Soc., 1845, p. 27, Auct. *Blyth*.

THE observations made in the description of *Ianthia hyperythra*, will equally apply to the present species, represented from another of Mr. Blyth's drawings.

"The male has the upper parts Prussian blue, brightening and inclining to ultramarine upon the sides of the forehead over the eyes, on the shoulder of the wing, and on the rump; lower parts white, confined to a narrow streak on the throat and fore-neck, but the flanks bright ferruginous; bill blackish, and legs dark brown. The female has the upper parts uniform brown, with a trace of blue on the shoulder of the wing, a supercilium greyish-blue posteriorly, and russet margins on the tertiaries; tail blue as in the male, the rump lighter and more greyish-blue; middle of the belly, lower-tail covers, and medial line of throat, white; the flanks ferruginous as in the other sex. Inhabits Himalaya, from Missouri and Simla to Darjeeling."—*Blyth*.

Total length, $\dot{5}.\ddot{2}$ or $\ddot{3}$; bill to gape, $\ddot{4}$; wing, $\dot{3}.\ddot{2}$; tarsus, $\ddot{8}\frac{1}{4}$.

We may remark, that Mr. Blyth's supposition that the female of this bird may be Professor Jameson's *Erythaca tytlerii* is incorrect. The bird in the Edinburgh collection so labelled, is *Muscicapa parva*, or a nearly allied species.

MEGALAIMA CAPISTRATUS, Eyton.

Received from Mr. Eyton for illustration. The locality marked "unknown."

Above, forehead before the eyes and over the nostrils, black; a streak above the eyes, cheeks, and auriculars, pale indigo, which also tips some of the last feathers of the black forehead; the crown and nape forming a narrow collar on the sides of the neck, and almost meeting the gorget, shining orange yellow, slightly interspersed with yellowish-green, into which colour it shades on the back rump, greater part of the wings, and middle tail-feathers; quills and secondaries, blackish-brown; outer webs edged with yellowish-green, inner with very pale yellowish-brown; tail, greenish-brown; *beneath*, the chin black; throat, breast and centre of the belly, clear greenish-yellow, crossed in the centre of the throat with a gorget of orange-yellow, 4̈ broad in the centre, and narrowing to nothing, where it almost reaches the nuchal collar; the belly, vent, and flanks, are pale greenish-yellow, having the centre of each greyish-green; bill greenish-yellow, bluish-black at the base; tarsi and feet blackish-blue.

Entire length, 7̇.3̈; bill to forehead 6̈; to gape, 9̈; wing, 2̇.8̈; tarsi, 6̈½.

PYCNOSPHYS GRAMMICEPS, STRICKLAND.

IN our description of this species in the volume for 1849, p. 124–5, we were not aware of its locality. We have now ascertained, that it is a native of Java. The generic name should also be changed as above, the word being derived from οσφυς not οσφρυς.

Mr. STRICKLAND sends us the descriptions of the four following birds:—

"I am indebted to E. Wilson, Esq., for the loan of several birds which he lately purchased at Paris, with the locality 'Pérou' inscribed on the labels. They are all closely allied representatives of Brazilian forms, and I therefore have no doubt that they come from Bolivia, or some other region on the *eastern* slope of the Peruvian Andes. The *west* side of the Andes is inhabited by many peculiar generic forms, indicating a distinct zoological region, and rarely produces species so closely allied to Atlantic American ones as those now before us. Four of these interesting birds I now proceed to describe:"—

MONASA FLAVIROSTRIS, STRICKLAND.

CLOSELY allied to the well known *Monasa tranquilla* of Brazil, but differs in its smaller size, the greener tint of the plumage, and in the beak being yellow instead of red.

Plumage black, with a greenish gloss, becoming obscurely cinereous on the belly; covers of the ulnar portion of the wing white, forming a longitudinal streak when the wing is closed; beak wax-yellow; feet and claws black.

Total length, 9̇.5̈; beak to front, 1̇.2̈; to gape, 1̇.4̈; wing, 4̇.2̈; medial rectrices, 4̇.2̈; external, 3̇.7̈; tarsus, 7̈; middle toe and claw, 1̈1½.

Inhabits Peru.

TODIROSTRUM CHRYSOCROTAPHUM, STRICKLAND.

(Upper Figure.)

A TYPICAL *Todirostrum* with a large broad beak.

Crown and hind head glossy black; lores pure white, over the eye a streak of bright yellow expanding on the temples; a black streak from the gape extending over the ears; back yellow-olive; lesser wing-covers glossy black; middle and greater covers, and all the remiges and rectrices, black, margined externally with yellow; chin whitish; lower parts and under wing-covers, pure yellow; beak and legs fuscous.

Total length, 3̇.6̈; beak to front, 5̈; to gape, 6̈; height, 1̈½; breadth, 2̈½; wing, 1̇.7̈; medial rectrices, 1̇.1̈; external, 9̈; tarsus, 6̈; middle toe and claw, 5̈; hind toe, 4̈.

Inhabits Peru.

EUPHONIA BICOLOR, STRICKLAND.

THE species of *Euphonia*, which is most nearly allied to this, is the *E. pectoralis* (Lath.), (*E. rufiventris*, Licht.) of Brazil; which however differs in the black of the throat extending over the upper breast also, and in the lower parts being deep and uniform chestnut, abruptly contrasting with the patch of vivid yellow on the sides of the breast.

Whole head, throat, back, wings and tail, deep blue-black, with a gloss of violet, except the primaries and some of the external secondaries, which are fuscous, margined externally with yellowish-olive; inner webs of remiges margined with white; lower wing-covers pale yellow; sides of breast bright yellow, passing gradually into orange-yellow on the middle of the breast and whole lower parts; tibiæ blackish, tipped with yellowish; beak and legs black.

Total length, 4̇.3̈; beak to front, 4̈; to gape, 5̈; wing, 2̇.3̈; medial and external rectrices, 1̇.6̈; tarsus, 6̈; middle toe, 6̈; hind toe, 5̈.

Inhabits Peru.

TACHYPHONUS RUFIVENTER, Spix.

Tanagra rufiventer, *Spix*, Av. Braz. v. 2, pl. 50, f. 1.

THIS species is remarkable for possessing six or seven distinct though rather irregular denticulations, directed forwards as in the *Toucans*, on the medial portion of the margins of both mandibles. This peculiarity of structure might almost justify the formation of a new genus, were it not that the close resemblance of its coloration to that of *Tachyphonus desmaresti*, and of *T. cristatus*, proves an intimate affinity to exist between these three birds. In *Tachyphonus cristatus* there is a single prominent undulation, almost amounting to a tooth, on the margin of the upper mandible, which leads us to the closely allied genus *Lanio*, where this tooth is still more developed. In the genus *Pyranga* also, we find marginal serrations, more or less conspicuous in the different species, so that this structure is by no means anomalous in *Tanagrine* forms.

The genus *Phytotoma*, well known for its serrated mandibles, belongs, there can be no doubt, to the family of *Tanagers;* but it is distinguished from all the other genera, by possessing a double margin to the lower mandible, of which the inner one is serrated, the outer plain.

The figure of this bird was drawn before I noticed that the species had been already figured by Spix. He, however, omits all notice of the denticulations of the beak.

Front and sides of head, hind neck, upper back, wings, upper tail-covers, and tail, black; proximal portion of lesser wing-covers white; crown yellow; lower back and rump ochre yellow; throat ochre yellow, separated from the breast by a narrow black band; lower parts deep ochre yellow, passing into ferruginous on the breast and middle of the belly; tibiæ black; lower wing-covers and basal part of inner webs of remiges white; beak black; base of lower mandible plumbeous; legs black.

Total length, $\dot{6}.\ddot{3}$; beak to front, $\ddot{5}$; to gape, $\ddot{7}$; wing, $\dot{3}$; medial rectrices, $\dot{3}$; external, $\dot{2}.\ddot{8}$; tarsus, $\ddot{6}$.

The specimen here figured was said to be from Peru. Spix's bird was procured in Brazil.

We are indebted for a description of this apparently new species of *Calliste*, to P. L. Sclater, Esq., of Corpus Christi College, Oxford.

CALLISTE CHRYSONOTA, Sclater.

C. suprà nitidè lutea, capite fulvescente, alis caudâque nigris, viridi limbatis, regione paroticâ lorisque atris; infra cœrulescens, ventre rufescente; rostrum superius nigrum, inferius albescens; pedes cinerei.—Long. tota, $\dot{4}\cdot\ddot{7}$; *alæ,* $\dot{2}\cdot\ddot{7}\frac{1}{2}$.

"This species is nearly allied to *C. cayana* (Linn.), from which it may be easily distinguished by the yellow colouring of the back, which in *C. cayana* is green. The colouring of the lower surface nearly resembles *C. cayana*, except the bluish tinge on the breast, which is hardly apparent in the latter species; it is also a quarter of an inch shorter in the wing and altogether smaller. My specimens were purchased without any locality being marked; but from the mode in which the skins are prepared, I believe them to be from Cayenne. Mr. Strickland has also a skin of this bird, and there is one in the British Museum.

NOTES AND CORRECTIONS.

TROCHILUS ALLARDI, Bourcier.

(Page 81-89, 1850.)

Mon. Bourcier, who has recently returned from Quito, has sent us the following remarks on the habits of this species, observed in its native haunts, together with its correct synonimy. From the latter it will be perceived, that Loddige's name of *tyrianthinus* must be retained for this bird. —

T. tyrianthinus, *Loddige*, Proc. Zool. Soc. p. 6, 1832; *Fraser*, Proc. Zool. Soc. p. 18, 1840.——T. allardi, *J. Bourcier*, Rev. Zool. p. 294, 1839; Ann. des Scien. Nat. de Lyon, t. iii. 1840.——T. paulinæ, *Boissoneau*, Rev. Zool., p. 355, 1839.

" Cette espece est très répandue dans toutes les montagnes de la Nouvelle Grenade et de l'Equateur, sans etre voyageur on le rencontre sur toutes les montagnes boiseés et dans les vallées dèsputant et batinant sur toutes les fleures d'arbustes, plantes, orchideés visiteé par les autres especès de Trochilus, il brave le froid et c'est un des Trochilidées que l'on trouve sur les fleures des derniers arbriseaux qui se rencontrent dans hautes regions des Paranmos (montagnes froides, couvertes d'herbes qui séparent les rochers entourés de sable et couvertes de neiges, des autres lieux couverts de bois). Ce Trochilus a le vol rapide, il vit solitaire, fait son nid dans les ravins sous les groupes de plantes qui peuvent l'abriter du soleil et de la pluie, comme les autres especès il pond deux eufs blancs (je n'ai jamais vû et trouvé que 2 œufs sans exception dans tous les nids), son nid est rond presque toujours placé dans de petites racines désséchées, la femelle est rousse sous le ventre, sans parure sous le gorge, comme je l'ai décrite. Les petites sont converts d'un plumage noiratre pendent le jeune age. Ce Trochilus est un de ceux qui ne font jamais entendre de cris."

TROCHILUS ALLARDI, Bourc.

Oiseau Mouche, d'Allard; Ornismya allardi, *Bourcier*, Rev. Zool. Oct. 1839, p. 294.

The first description of this species is, we believe, in the work above quoted, it formed part of the extensive collection of M. Bourcier, and we are not aware that it has yet been figured.

Species which agree with the description of M. Bourcier were received in our last collections from Professor Jameson of Quito. It must have an extensive range, both in latitude and elevation, if we are correct in referring the Quitian Birds to M. Bourcier's species; the latter gentleman gives their country as Santa Fé de Bogota, while Mr. Jameson gives the western declivity of Pichincha as its habitat, stating, that "it feeds generally on the flowers of a blue Lupine, and that its habits resembled more those of an insect than one of the feathered tribe."

The male has the upper parts metallic green; beneath very pale reddish-orange, becoming almost white on the vent; each feather is broadly tipped with the same colour as the upper parts, and when the plumage is laid close it almost entirely exhibits that tint. On the chin and throat is a triangular gorget, running to a point on the breast, composed of scale-like feathers of a rich and varying emerald green. The wings are deep umber brown. The tail is composed of ten broad feathers, and is slightly forked, the outer exceeding the inner feather by about 3̈.

The entire length is from 3̇.5̈ to 3̇.9̈; wing, 2̇.4̈; bill to forehead, 4̈½.

The female is similar to the male except in the lower plumage, which is pale reddish-orange, and without any trace of the brilliant gorget, the feathers on the chin, throat, and neck, having a very small round brownish-green spot at the tip of each.

SYNALAXIS FLAMMULATUS, JARD.

THIS bird, which formed a part of our last collection from Quito, we have been unable to reconcile with any described or figured species. It "frequents the lofty table-lands of the Andes, at an elevation of 14,000 feet."

The general colour above is a pale umber brown, and each feather has in the centre a broad somewhat lanceolate streak along the shaft of yellowish-white, on the forehead and crown tinted with ochraceous; the edges of this stripe are bordered irregularly with a deeper tint of umber brown, relieving the white, and at the same time making the entire plumage appear darker than it really is when separated. On the wings the colours become more rufous, maintaining the same central streak; the quills are umber brown, having at the base a pale sienna band, distinctly marked across. The tail is much graduated, the feathers slender and disunited at the tips; the centre feathers are umber brown, paler on the outer edges; those to the outside become paler and more clouded towards the shafts with umber; underneath, the chin and upper part of the throat is pale yellow, and on the other parts the ground colour is a paler umber brown; the centre of the feathers broadly marked with yellowish-white, giving to the centre of the belly and vent a preponderance of that colour. The tarsi and feet appear to have been bluish-gray or lead colour, and the latter are long in proportion to the size of the bird.

The entire length is, $\dot{6}.\ddot{5}$; of bill to forehead, $\ddot{5}$; of wing, $\dot{2}.\ddot{4}$; of tarsus, $\ddot{9}$.

ALCYONE CYANO-PECTUS, DE LA FRESN.

Alcyone cincta *of our Plate.*—**Ceyx cyano-pectus,** *de la Fresn.*, **Rev. Zool. 1840, p. 33.**

THIS pretty little Three-toed Kingsfisher, was sent to us by Mr. Eyton for illustration, and the figure and name attached were drawn and printed off before we discovered it to be identical with the synonym of de la Fresnaye, who had already described it. Mr. Eyton's specimen is marked as received from the Philippine Islands.

Ceyx and Alcyone, the small Three-toed Kingfishers, are placed by Mr. Gray in separate sub-families, *Halcyoninæ* and *Alcedininæ*. The distinctions seem to be, the broader and stronger bill of Ceyx, with their more uniform Daceline plumage, contrasted with the slender or more truly Alcedine form, slender straight bill, and blue colour of the plumage of *Alcyone.* We are scarcely satisfied with their separation. The species, whether of one or other, are mostly very closely allied, and require care to investigate and separate. A great proportion of them are spread over the Indian Archipelago, and numerous specimens are required to work out the variations they are subject to, and the geographical limits and range of each.

Bill rather slender; upper mandible brown, lower tinted with orange-red; above, the characteristic Alcedine spot before the eye and on the sides of the neck, pale sienna; crown, nape, lower jaw, and auriculars, wings and tail, deep bluish-black; feathers of the crown, tipped with a bar of pale clear ultramarine, more indented on jaw and auriculars; those of the shoulders and scapulars with a narrow spot or dash of same colour; centre of the back pale ultramarine, rump and tail-covers, deeper; below, throat and breast, centre of belly and vent, and under wing-covers, sienna, palest on the chin; lower part of the breast girt with a band of indigo 3̈ or 3̈½ broad; the flanks meeting nearly in the centre of the belly, and under tail-covers, same colour, in some positions tinted with ultramarine; tarsi and feet yellowish-vermillion.

Entire length, 5̇.5̈; bill to forehead, 1̇.1̈; to gape, 1̇.9̈; of wing, 2̇.4̈; tarsus, 3̈.

TARSIGER CHRYSÆUS, Hodgson.

Tarsiger chrysæus, *Hodgs.* in Proc. Zool. Soc. pt. 13, p. 28; Ann. Nat. Hist. vol. xvi. p. 199. —— Sericornis chrysæa, *Blyth*, in Journ. As. Soc. Beng. vol. xiv. p. 549. —— Nemura chrysæa, *Gray*, Gen. Birds, sp. 2.

This bird is thus described by Mr. Blyth, to whom we are indebted for the drawings from which the plate is taken.

"♂. Whole under parts, shoulder of wing, more or less of the scapulars, rump, and basal three-fourths of all but the middle pair of rectrices, brilliant yellow, the last being also yellow at base, and there is a narrow supercilium of the same; rest of tail, lores, and ear-covers, black; alars and their larger covers, blackish, narrowly edged with dull yellowish; head and back, dusky olive, with dull yellowish-green margins to the feathers; beak, dark above, pale below; legs, pale.

"♀. Upper parts uniform dark greenish-olive, with merely a more yellowish shade over the rump; upper parts sullied yellow; tail, dusky olive, marked as in the ♂, but with considerably duller yellow.

"Young of the year spotted above like a young robin.

"Length, 5̇.2̈; wing, 2̇.7̈; tail, 2̇.2̈; external rectrices, 2̇; beak to gape, 7̈; tarsus, 1̇.1̈.

"Mr. Hodgson informs us, that this bird inhabits the central hills of the Himalaya; is shy, solitary, and bush-loving, constantly descending to the ground from its perch; it feeds and breeds on the ground, making a compact saucer-like nest of moss. Eggs, verditer. In form it comes very close upon *Calliope*, and approaches still nearer to *Cyanecula*, from which its principal structural distinction consists in the more rounded form of its wings and tail, and the somewhat reduced degree of firmness of its plumage; besides which, the yellow colouring is a character of the present group. The wings have the fourth, fifth, and sixth primaries sub-equal and longest, and the first about half their length."—*E. Blyth.*

XANTHORNUS PROSTHEMELAS, STRICKLAND.

DESCRIPTION.—Head, neck, upper back, throat, breast, wings, upper tail-covers, and tail, deep black; abdomen, vent, lower tail-covers, under wing-covers, lesser wing-covers above, lower back and rump, bright yellow; beak black; base of lower mandible bluish; legs black.

Total length, $\dot{7}.\ddot{5}$; beak to front, $\ddot{7}$; to gape, $\ddot{9}$; wing, $\dot{3}.\ddot{5}$; medial rectrices, $\dot{3}.\ddot{6}$; external, $\dot{2}.\ddot{9}$; tarsus, $\dot{1}$.

The specimen here figured was procured by Mr. E. Wilson from Central America. A bird from Guatemala, in my own collection, differs in having the lower tail-covers black instead of yellow, and in the yellow colour of the body being of a deeper and more saffron tint; the wing is $\ddot{5}$, and the tail $\ddot{1}$ longer than in Mr. Wilson's bird. It is probably a more fully developed individual of the same species.

The beak of this bird, as in most of the species of *Xanthornus* (if indeed it be possible to separate that genus from *Icterus*), is slightly curved, and nearly agrees in form with that of *X. chrysocephalus* (Gmel.). I have been unable to identify the species with any of the descriptions to which I have access, but there are two or three Mexican ones described by Wagler in Oken's Isis for 1829, with one of which it may possibly be synonymous.—*H. E. Strickland*.

ELÆNIA LINTEATA, STRICKLAND.

DESCRIPTION. — ♂. Front, crown, and sides of head, black, with a spot of vivid orange in the centre of the crown; back, rump, and wings, dark greenish-olive; remiges and rectrices fuscous, narrowly margined externally with olive; chin and throat pure white, the feathers on each side of the throat lengthened into a tuft; upper breast olive, lower breast deep chestnut, becoming paler on the belly and vent; beak and legs black; "irides red;" rictal bristles very short; wings rounded, fourth quill longest.

♀. Front, crown, and upper parts, pure olive-green; spot on the crown vivid yellow; ear-covers dark grey; lower parts as in the ♂.

Long, $\dot{5}$; beak to front, $\ddot{5}$; to gape, $\ddot{7}$; wide, $\ddot{2}\frac{1}{2}$; high, $\ddot{1}\frac{3}{4}$; wing, $\dot{3}.\ddot{3}$; medial rectrices, $\dot{2}$; external, $\dot{1}$; tarsus, $\ddot{6}$; middle toe and claw, $\ddot{5}\frac{1}{2}$; hind ditto, $\ddot{4}$.

A pair of these singular birds were received by E. Wilson, Esq., from the upper branches of the Amazon river. At first sight I was disposed to refer the species to the *Tanagridæ*, some of which (*e. g. Tachyphonus quadricolor*, Vieill.) possess rictal bristles and a yellow coronal patch. On further examination, however, it seems to come nearest to the genus *Elænia*, which includes those birds of the great American sub-family, *Tyranninæ*, in which the beak is short, strong, and considerably elevated. The tail, however, is of a peculiar form, and those who are fond of genus-coining would doubtless give it a generic designation in consequence. The six middle feathers are nearly equal, but the three external pairs are rapidly shortened as well as considerably narrowed and pointed. — *H. E. Strickland.*

CASARCA LEUCOPTERA, BLYTH.

SOME time since, a drawing was received from Mr. Blyth of a Duck, which he considered to be new; and in our last communication from him, a second sketch was enclosed, and he informs us that he had received both sexes of the bird alive from Mergui, together with the Argus and great Firebacked Pheasants, and other birds of interest, which were not previously known so far northward. Mr. Blyth considers it a true *Casarca*, and has named it as above, from the white patch upon the shoulders. The male is rather larger than the female as in *C. rutila*, with fewer black spots and consequently more white on the head and neck; the back less mottled with dusky, and the under parts much darker than in the female, which last has a strong tinge of the hue of *C. rutila*. These are proposed to be sent alive to this country.

MENURA ALBERTI, GOULD.

M. Alberti, *Prince of Canino, Consp. Gen. Av.* p. 215.

THE addition of a new species to a form of which one only, or a very few individuals at most were known, is always of much importance, and if the form should belong to one of great peculiarity of structure, it is of still greater value, serving to clear up and fix the points of affinity which required to be confirmed by an additional example. Such has been the case with *Menura*, a remarkable Australian form, and until now known only by a single species, the Pheasant or Lyre-Tail of the colonists, the *Menura superba* of Davies and modern Ornithologists.

Mr. Gould, in the spring of the present year, received specimens of *M. alberti* from his Australian collector, and immediately after brought it under the notice of the Linnæan Society, pointing out the distinctions between it and the old species, and naming it in honour of His Royal Highness Prince Albert. It is found on the Richmond river, and among the Brushes of the eastern coast of Australia. No description has been yet published, although figures have been already lithographed, and will appear in the Supplement to the Birds of Australia. Meanwhile, Mr. Gould has permitted us to draw up a description, from a series of specimens, for the use of these "Contributions," and we have placed the characters of the two species together, that they may be easily compared. *M. alberti* is distinguished by the more rufous colour of the upper parts, and by a difference in the structure of the more conspicuous feathers of the tail.

♂ *Above*, crown, auriculars and back of the neck, blackish umber brown, slightly tinted with sienna on the forehead; the cheeks and around the eyes bare, with a few scattered narrow feathers; back, wings, rump and upper tail-covers, umber brown, with a tint of sienna, brightest on the two last; tail black, the outer feathers with indistinct sienna bars, two centre feathers pale umber brown. *Beneath*, chin, throat and upper part of the neck, dull sienna; breast and flanks pale yellowish umber brown; centre of belly and thighs, yellowish-grey; under tail-covers bright sienna;

tail grey, the barbs of the loose feathers appearing white; bill, legs and feet, black. Entire length, 3.2̇; bill to forehead, 1̇.5̈; to gape, 1̇.9̈; wing, 10̇.3̈ to 5̈; tarsus, 4̇.1̈; tail to extremity of loose feathers, 1.9̇; outer feather, 1.6̇.5̈.

In the structure of the tail, *Menura alberti* presents some variations from that of the old species, the long lyre feather on the outside equalling the other feathers in length, is represented by one which is here the shortest. It is composed of very broad webs, loose but not separated, and on the inner there are slight indications of sienna bars. The next six feathers on each side are similar in structure, having wide separated barbs, but they are finer and shorter than in *M. superba*. The two centre feathers are also of the same structure, and cross each other at the base; but the inner webs are broader, the outer rudimentary barbs stronger and placed more thickly; the entire tail considerably shorter.

♀ *Above*, crown, back of the neck and auriculars, blackish umber brown; back, wings, rump and tail-covers, umber brown with a tint of sienna; quills, dark blackish umber brown; tail cuneiform, all the feathers with the barbs united, black, the twelve centre feathers tipped with reddish umber brown, centre feathers exceeding the others, pointed, crossing; outer webs broad, inner narrow at the base and gradually widening, umber brown. *Beneath*, nearly as in ♂.

Entire length, 2.5̇ to 6̇; tail to centre feathers, 1.5̇; central tail-feathers exceed the others by about 3̇.

0 Plumage downy, colours that of ♀ more rufous on the crown; tail cuneiform, tipped with sienna; centre feathers not elongated. Entire length, 2.1̇ to 2̇.

CÆREBA NITIDA, HARTLAUB.

Cæreba nitida, *Hartlaub* in Rev. Zool. 1847, p. 84. —— *Gray*, Gen. Birds, App. p. 5.

THIS beautiful little bird is thus described by Dr. Hartlaub :—

" Nitide cyanea ; alis, caudâ, loris et gutture nigerrimis ; pedibus pallide flavis, rostro nigro.

" Resembles *C. cærulea* (Linn.), but differs, first, in its smaller size ; secondly, in the length of the beak, which is 4̈½ in *C. nitida* and 8̈ in *C. cærulea ;* thirdly, in the different shade of the blue, which is brighter and without that violet tint which we see in *C. cærulea ;* it is nearly the same as the blue of *Ampelis cotinga ;* fourthly, in the greater extent of black on the throat."

Total length, 3̇.6̈; beak to front, 4̈½; to gape, 5̈; wing, 1̇.9̈; medial and external rectrices, 1̇.1̈; tarsus, 4̈½.

Dr. Hartlaub's specimen was obtained in the north of Peru, probably, however, on the east side of the Andes, for the one here figured was procured by Mr. E. Wilson, from the upper branches of the Amazons.—*H. E. Strickland.*

PAROIDES FLAMMICEPS, Burton.

Ægithalus flammiceps, *Burton* in Proc. Zool. Soc. pt. iii. p. 153; *Blyth* in Journ. As. Soc. Beng. v., xvi. p. 444.—— Dicæum sanguinifrons, *Hay* in Journ. As. Soc. Beng. v., xv. p. 44.

This pretty little bird is interesting as furnishing an Asiatic example of the Africo-European genus, *Paroides* (*Ægithalus*, Vig.) of which only four or five species are known. Though generally classed with the *Parinæ*, its true affinities are as yet very uncertain. Mr. Blyth remarks, that it occurs in flocks, and frequents the branches of lofty trees. Mr. Hodgson does not appear to have met with it in Nepaul.

Crown vivid orange red; hind head and upper parts, yellowish-olive; wing-covers, remiges and rectrices fuscous, margined with yellowish-olive; chin orange red, passing into orange on the throat and breast, and into pale yellow on the lower parts; beak plumbeous, the margins pale; legs blackish.

Total length, $\dot{3}.\ddot{3}$; beak to front, $\ddot{3}$; to gape, $\ddot{4}$; wing, $\dot{2}.\ddot{4}$; all the rectrices, $\dot{1}.\ddot{5}$; tarsus, $\ddot{5}$.

Habitat, India, Doon, Simla, and other north-west Himalayan localities.—*H. E. Strickland.*

CONTRIBUTIONS

TO

ORNITHOLOGY

FOR

1851.

BY
SIR WILLIAM JARDINE, BART.
F.R.S.E., F.L.S., ETC., ETC.

EDINBURGH:
W. H. LIZARS, 3, ST. JAMES' SQUARE.
LONDON: REEVE & CO., 5, HENRIETTA STREET, COVENT GARDEN.

1852.

CONTENTS.

	Plate	Page
ORNITHOLOGY IN 1850	...	1
Notornis mantelli	67	8
Balæniceps rex	68	10
ORNITHOLOGICAL NOTES BY H. E. STRICKLAND	...	15, 103
I. On an hitherto unnamed species of Dacnis	...	15
II. Goldana capistratoides	...	16
III. On the type of the genus Dulus, *Vieill.*	...	103
NOUVELLE CLASSIFICATION DES PICINÉES OU PICS, &c. PAR M. ALFRED MALHERBE	...	17
ON SOME NEW SPECIES OF CALLISTE BY PHILIP L. SCLATER	...	21
C. virescens, *Sclat.*	69, fig. 1.	22
C. chrysophrys, *Sclat.*	69, fig. 2.	24
MONAGRAPHIE DES LOXIENS PAR CH. L. BONAPARTE ET H. SCHLEGEL	...	27
SYNOPSIS OF THE TANAGRINE GENUS CALLISTE, WITH DESCRIPTIONS OF NEW SPECIES BY PHILIP L. SCLATER	...	49
C. icterocephala, *Bonap.*	70, fig. 1.	53
C. lunigera, *Sclat.*	70, fig. 2.	65
ON TWO NEW SPECIES OF EUPHONIA, *Desm.*, ALLIED TO E. CHLOROTICA BY H. E. STICKLAND	...	71
DESCRIPTION OF SOME NEW SPECIES AND A NEW GENUS OF DENDROCOLAPTINÆ BY T. C. EYTON	...	75
ILLUSTRATIONS OF ORNITHOLOGY	...	79
Trochilus (Thaluranía) verticeps, *Gould*	71	79
Turdus aurantiirostris, *Hartlaub*	72	80
Trochilus (Spathura) melananthera, *Jard.*	80	111
SYNOPSIS OF THE GENUS EUPHONIA, WITH DESCRIPTIONS OF NEW SPECIES BY PHILIP L. SCLATER	...	81
Euphonia nigricollis, *Vieill.*	75, fig. 1.	83
E. pyrrhophrys, *Sclat.*	75, fig. 2.	89

	Plate	Page
Ornithological Observations by Philip L. Sclater	...	93, 105, 143
I. Remarks on Prince Canino's Note, "Sur les Tangaras"	...	93
II. On the Genus Tanagrella, *Swains.* ...	...	97
Tanagrella calophrys, *Cab.*	74	98
III. On the Genus Chlorochrysa, *Bonap.* ...	...	99
C. calliparæa, *Tschudi*...	73, fig. 1.	99
C. phænicotis, *Bonap.*	73, fig. 2.	100
IV. On the Genus Dacnis, *Cuv.*, with Description of a New Species	...	105
V. On a New Species of Manakin; Pipra flavicollis	...	143
Gnathodon Strigirostris, *Jard.*	...	113
Scytalopus, *Gould*, 1836	...	115
S. fuscus, *Gould*	77	116
S. albigularis, *Gould*	78	116
S. undulatus, *Jard. & Selby*	76, fig. 1.	117
S. albiventris, *Menet.*	76, fig. 2.	118
Monograph of the Owls—Strigidæ. By Dr. T. T. Kaup	...	119
Notes on some Birds from the River Gaboon in West Africa by H. E. Strickland	...	131
Alcedo quadribrachys, *Bonap.*	79	134
On a New Species of Musóphaga by J. Gould ...	81	137
Descriptions of Three New Species of Humming Birds by J. Gould	...	139
Birds of Western Africa; Hirundo gordoni, *Jard.*	...	141
Observations on the Genus Scytalopus by the Baron de la Fresnaye	...	145
Birds of Western Africa; Collections of Louis Fraser	...	151
Cypselus affinis, *Gray*	...	157
Descriptions of Two New Species of Synallaxis by T. C. Eyton	...	159
Further Notes on Birds from the River Gaboon in West Africa by H. E. Strickland ...	...	161

ORNITHOLOGY IN 1850.

In commencing another year of "*Contributions*," it may be of use to our readers to run shortly over what has been accomplished in Ornithology during the last twelve months in our own country.

It is a remarkable fact, that although the working and scientific ornithologists of Great Britain can only rank comparatively as a small band, and that the science generally has not got into the circle of those considered fashionable, more Ornithological works of large size, and of an illustrated and expensive character, have been patronised and published than in any other branch of Zoology, and it is only in Botany where there has been any approach to it. What is the cause of this, and how are they supported? for they do not find their way into all the public libraries, and few private individuals can afford them. Nevertheless, during the last thirty years, we have had a great mass of Ornithological works of unrivalled magnificence and fidelity of illustration, annually appearing and brought to a completion. We have only to state as examples, the British Birds of P. J. Selby, Esq., two folio volumes of coloured plates; Sir W. Jardine and P. J. Selby's Illustrations of Foreign Ornithology, begun at a time when that branch had waned almost to extinction; Audubon's Birds of America, commenced under Edinburgh auspices, and whose artists first recognised the merits of the "Woodman's" pencil;* all the Government publications, from the Northern

---

* Since writing the above, we regret to observe the following announcement from the *New York Herald*:—

"Death of Audubon the Ornithologist.—John James Audubon, the deservedly renowned naturalist, died in New York, on the 27th of January, at his residence on the banks of the Hudson river, in 155th street. He had arrived at the age of seventy-six, and has gone down to the grave, leaving a name distinguished among the scientific men of every nation, a name earned by a steady perseverance in the beautiful field of Ornithology, the cultivation of which demands fancy, taste, judgment, and a general love of nature."

Zoology of Richardson and Swainson, to the Zoology of the Erebus and Terror, improperly permitted still to remain uncompleted; Fraser's Zoologia Typica; Gray and Mitchell's Genera of Birds; the extensive works of Mr. Gould, so successfully carried on for a long series of years, all these testify that patronage for works of this kind is not wanting while there are many other works of less pretension, which show us that a demand does exist. Still we consider the really working men are very limited; there are a good many gentlemen scattered over the country who take an interest in Ornithology, particularly of any thing that may occur among our native birds, and there are a few sportsmen who preserve what occurs to themselves or their friends; but we mean, that there are very few who possess or are forming extensive general collections, or who, by keeping pace in their libraries or correspondence, are aware of the "present state," or what is daily adding to our knowledge. Lord Derby is an excellent patron of Ornithology, and whatever enters his large collection is at the service of science. Mr. Edward Wilson has made very extensive collections for his brother in America, and which are kindly made available to us before they leave this country. George Robert Gray continues successfully to work out the resources of our great national collection; but with Ourselves, Hugh E. Strickland, T. C. Eyton, and Mr. Gould, are almost if not solely, the only other persons actively engaged in this science. Three of the latter only, possess extensive and increasing general collections and libraries; but to these we hope we may now add P. L. Sclater, of Corpus Christi College, Oxford, who has commenced his collection, and is now working out some groups with great exactness.

Among the ornithological works now in progress, or that have been completed during the past year, those of John Gould may be stated as the most extensive and important. That gentleman commenced his career as an ornithologist many years since, and with the assistance of Mrs. Gould, an ornithological draftswoman of first rate eminence, completed the Birds of Himalaya, Birds of Europe, the greater portion of the Birds of Australia, and several monographs, all in a style of excellence and completeness, that places them at the head of works of this class. During the present year, one of the previous monographs has been completed, another has been commenced, and an entirely new work has reached its second part. The monograph completed by the publication of the third part, is that of the *Odontophorinæ*, or American Partridges, considered a few years since as forming a group of birds very limited in numbers, but which is found in the present work to contain thirty-five species, all of which are well figured and described on thirty-two plates, and at a price of eight guineas. The monograph which has been commenced, is that of the *Trochilidæ* or Humming Birds, of which one part only has been published. It is a subject of great extent, and at the same time of great interest. The figures which have been published are perhaps the most successful that Mr. Gould and his artist, Mr. Richter, have yet accomplished, both in the delicacy of the drawing and the accessaries to the figures, and in the representation of the changing colours, which has been attempted by a particular process, both in the printing and colouring. The new work which Mr. Gould has undertaken, is the most important in a general view, as it embraces the Ornithology of one of the quarters of the world, almost an entire zoological province, "*The Birds of Asia.*" "It is intended," he writes in his prospectus, "that the present work shall embrace the Birds of the Asiatic continent only; to attempt to include in it the Ornithology of the Indian Archipelago, New Guinea, the Moluccas and the islands of the Southern Ocean, would be an act of temerity; somewhere a line of demarcation must be drawn, and here the author will confine himself, not too rigidly, within the continental boundary. Many species, common alike to India and Europe, and to India and Australia, have been already figured in his 'Birds of Europe' and 'Birds of Australia;' these of course will not be delivered to the possessors of those works unless especially demanded at the close of the publication, and hence to them it will be less voluminous and expensive than might be at first inferred from such a title as 'The Birds of Asia.'"

Two parts have been published during the past year, each containing seventeen plates, and in each a portion is more particularly devoted to the illustration of some particular genus, thus in Part I. *Sitta* is illustrated, in Part II. *Nectarinia*. The contents of these two parts are—

Part I.

Falco jugger.
Pitta nipalensis.
—— *cyanea.*
Pericrocotus solaris.
———— *erythropygius.*
Chrysophlegma flavinucha.
Sitta formosa.
—— *cinnamoventris.*
—— *castaneoventris.*
—— *leucopsis.*
—— *himalayensis.*
Cochoa viridis.
——— *purpurea.*
Cissa pyrrhocyanea.
Fringilla burtoni.
Yunx indica.
Nucifraga multipunctata.

Part II.

Caprimulgus mahrattensis.
Nyctiornis athertoni.
———— *amictus.*
Niltava grandis.
——— *sundara.*
——— *macgregoriæ.*
Lophophorus impeyanus.
Nectarinia ignicauda.
———— *goalparensis.*
———— *vigorsii.*
———— *nipalensis.*
Syrrhaptes tibetianus.
Pterocles exustus.
———— *fasciatus.*
Glareola melanoptera.
Certhia nipalensis.
C. —— *himalayana.*

Of other illustrated works, the last part of the Zoology of Dr. Smith's South African expedition, after a very long delay, has been published, and that work can now be obtained complete, the Ornithology forming a thick volume, and a very important one to those working at species from that and other regions of Africa. We are sorry not to be able to announce the completion of another Government work, "The Zoology of the Erebus and Terror." The plates to the wanting part of the Ornithology have been for a long time lithographed by Wolf, but we do not know what retards its publication.

"*A History of British Birds, by the* Rev. F. O. Morris, B.A., *with an illustration of each species, accurately coloured,*" has reached its ninth part. Each part contains four coloured plates, besides descriptive letterpress, the price one shilling. The "*Nests of Eggs of British Birds,*" upon the same plan, and by the same author, is also announced, so soon as a sufficient number of subscribers have been obtained.

The concluding volume of the "*Birds of Ireland,*" by William Thomson, Esq., Belfast, will not come into the past year, though it is almost out of the printer's hands.

"*A List of the Specimens of British Animals in the Collection of the British Museum*, Part iii., *Birds*," is one of those useful catalogues of the zoological contents of the great national collection, of which twenty-four parts have already appeared. This one, we are told in the introduction, has been prepared by Mr. George Robert Gray, the senior superintendent of the ornithological department, and a short extract from that portion of the work will best explain its objects.

"The principal object of the present catalogue has been to give a complete list of all the birds that have been recorded as found in Great Britain (should not *and Ireland* been added?), indicating at the same time those species that are contained in the collection, and pointing out those peculiarities as regards age, sex, habitat, and the source from which the specimens were obtained, which are mentioned after the specific name and its synonyma; while the localities of those species not contained in the collection are also recorded." From this catalogue we gain a knowledge of the extent of the collection of British Birds, the species admitted being understood to be all *British killed;* and we regret to learn from it, that there is a want of an instructive series of the different states, incident to age and sex, while several of our common or easily obtained species are nearly or altogether absent. As an example of this, there is only one specimen of *Sitta europea, Anthus arboreus, Muscicapa atricapilla*, all easily procured. None of *Regulus ignicapillus* or *Anthus rupestris*, the latter common around every part of our shores, where the locality is suitable. Only a single specimen of *Tetrao tetrix*, no female. No *Uria ringuia*, &c., &c. A very trifling expense would easily render much more perfect this department of our ornithological collection.*

"*Game Birds and Wild Fowl, their Friends and Foes, by* A. E. KNOX, M.A., F.L.S., *author of Ornithological Rambles in Sussex.—London, Van Voorst,* 1850." Although not a book of Scientific Ornithology, we include this in our list of the year, as containing many notes and traits of the manners of our native species; and notwithstanding that the habits of our British birds have been already pretty strictly analyzed, something may now and then be gathered from new observers. It is, however, more a book for the sportsman than for the ornithologist.

---

* The habitat given for *Scolopax brehmi*, was "Jardine Hall," and "vicinity of Enniskillen," not "near Lockerby."

"*Proceedings of the Zoological Society of London, with Illustrations.* Part III., *July to December* 1849." Three years since, it was thought, by the indefatigable secretary of the Zoological Society, that it would be for its welfare, and would tend also to relieve its "*transactions*" from the mass of miscellaneous and shorter communications that come before it, were its "*proceedings*" published in an illustrated form. The Proceedings of 1848 were accordingly published in three parts, including a notice of all that had come before the meetings between January and December in that year. They were illustrated by exceedingly beautiful plates, chiefly lithographic, and altogether formed a volume reflecting much credit upon its editor. The same plan was followed out in 1849, Parts I. and II., being published in that year; but Part III. did not appear until the month of August, 1850, completing the second volume. For the year 1850, then, no Proceedings have yet at this date (February, 1851) been published.* Part of the Proceedings for 1849 having only come before the public in the by-gone year; we ought to notice their contents, with the remark however, that a little exertion might have put us in possession of the papers communicated during the session of 1850.—— *On New Species of Mammalia and Birds from Australia*, by JOHN GOULD, F.R.S., F.Z.S., &c., p. 109. See "Ornithology of Section D of Contributions for 1850," p. 92. A figure of both sexes of *Ptilorhis victoriæ* is given.—— *Description of Three New Species of Indian Birds, by* JOHN GOULD, F.R.S., &c., p. 112. *Ruticilla grandis, Yunx indica,* and *Sitta leucopsis.* —— *On the Lorine genus of Parrots, Electus, with the Description of a New Species, Electus cornelia, by* CHARLES LUCIAN PRINCE BONAPARTE, F.M.L., F.Z.S., &c., &c., p. 142. Prince Bonaparte restricts *Electus* to three species, all from the Moluccan Islands —*E. puniceus*, Gm., *E. grandis*, Gm., and *E. cornelia*, Bp. Specific descriptions, &c., are given of all; that for the last is

---

* We have just (February, 1851), received Part I., January to April, 1850, of the *Proceedings.* This is exceedingly unfavourable to the Society. Names given to new species at their meetings in January 1850, and not PUBLISHED until February 1851, cannot stand before those conferred in the interval.

"*F. coccineus, dorso alis caudaque purpureo-fusiscentibus; margine alarum remigibusque apice cyaneis; tectricibus inferioribus rubro cyaneoque variis; abdomine crisso, et caudæ apice, rubris concoloribus;*" a figure is given, pl. x. —— *Notice of a Hybrid Crowned-pigeon, hatched in the menagerie, by* D. W. MITCHELL, Sec. Z.S., &c., &c., p. 170; figures of the young birds newly hatched are given.

The Annals and Magazine of Natural History, including Zoology, Botany, and Geology. Vols. v. and vi. *Second Series, On the Occurrence of* Charadrius virginiacus, *Borkh. at Malta, by* H. E. STRICKLAND, Esq., M.A., F.G.S., p. 40. The occurrence of this species in Malta is given on the authority of letters from Captain Drummond, 42d Regiment, in 1846. The specimens were afterwards seen by Mr. Yarrell, who considered them identical with *C. virginiacus,* which has almost a cosmopolite distribution, while *C. pluvialis* is restricted. The former is not mentioned in the latest accounts of the Ornithology of Malta, Sicily, or Greece. —— *Natural History of Ireland, Birds,* vols. i. and ii., *by* WILLIAM THOMSON, Esq., Belfast, *a review of,* p. 218. —— *Descriptions of some New Species of Birds of the Family Caprimulgidæ, by* JOHN CASSIN, p. 30. An Extract from the Proceedings of the Academy of Natural Sciences of Philadelphia, vol. iv. p. 236. The species described are *Hydropsalis limbatus* and *segmentalis; Anthrostomus sericeocoudatus,* all from South America. —— In Proceedings of Zoological Society, of a date nearly twelve months previous (February, 1849), printed in this volume, we have *Description of a New Species of Parrot, Psittacus* (*it is a Pionus*) *rüppellii,* p. 77. —" Uniform dark-bronze colour, with the lesser and under wing-coverts bright yellow; the feathers on the thighs, orange-yellow; length, 9̇.6̈; bill from gape, 1̈0; wing, 5̇.6̈; tail, 3̇.3̈; tarsi, 6̈. Habitat, river Nunez." —— *Description of a New Species of Nutcracker, Nucifraga multipunctata, by* JOHN GOULD, F.R.S.L., &c., p. 134. It is from Simla in India, and is described from a specimen in the Museum of Philosophical Society of York. —— *Notice of a Peculiarity of Structure observed in the Aorta of the Wild Swan, by* JOHN DAVY, M.D., F.R.S.E. and L., p. 139. —— Under the title "*Ipswich Museum,*" p. 147, is given in the substance of a lecture delivered by Professor Owen, at the anniversary meeting, "*On Gigantic Birds of New Zealand, and Geographical Distribution of Animals.* —— *On a new species of the genus Glareola, G. nuchalis,* also on a new species of the genus *Cultriodes, C. rufipennis, by* J. R. Gray, F.L.S., &c., p. 224.

The only original ornithological communication in vol. vi., exclusive of a notice or two in the Miscellanea, is *Supplementary Notices regarding the Dodo and its Kindred, No. 9, by* H. E. Strickland, M.A., F.Z.S., p. 290; these notices forming a supplement of the information received from various sources since the publication of the work on " The Dodo and its Kindred," by Mr. Strickland and Dr. Melville, have been printed in " Contributions for 1850," p. 123; and copies on thin paper have been distributed by post in quarters abroad, where information may be expected to be derived.

The Zoologist, a popular miscellany of natural history, conducted by Edward Newman, F.L.S., Z.S., &c., has reached volume eighth, and contains many ornithological notices, particularly of the occurrence of the rarer species of this country. They are in fact so numerous, that nothing short of an index could give an idea of them; but the subjects in the volume have the advantage of being classified, and the departments therefore are easily looked over.

In the "*Quarterly Journal of the Geological Society of London," edited by the Assistant Secretary,* we have " *Notice of the Remains of the Dinormis and other Birds," recently collected by Mr. Walter Mantell, in the Middle Island of New Zealand, by* Gideon A. Mantell, Esq., LLD., &c., vol. vi. p. 319. The statement which Dr. Mantell made to the British Association in Edinburgh, of the probability of a skin of one of the supposed extinct birds forming part of a collection dispatched by his son (*Contrib.* 1850, p. 87), caused its arrival to be watched with considerable interest. On the arrival of the collection, the existence of the *Notornis* was proved to be correct, a skin of the bird having been procured by Mr. W. Mantell from some sealers in Dusky Bay, who perceiving its tracks upon the snow, had pursued and captured it alive with the assistance of their dogs. It was kept alive for some days, and afterwards killed and eaten by the crew, Mr. Mantell being fortunately in time to rescue the skin. Since its arrival in this country, it has been exhibited before the Zoological Society, and identified by

Professor Owen with the supposed fossil bones formerly described by that anatomist; and Mr. Gould has made a lithograph figure of the size of life, which will be published almost immediately in a new number of the "*Icones Avium.*" Dr. Mantell would not trust the specimen out of London, and we therefore at the time missed the opportunity of examining the skin; but Mr. Gould has permitted us to make an outline from his plate, which will convey some idea of the form; this is mechanically reduced to one-fourth the size of the original. Twenty pounds were offered for the skin by the British Museum, and afterwards twenty-five by a private individual, but both were refused, and the specimen is now stuffed, and placed in a glass shade in Dr. Mantell's drawing-room, where he kindly allows it to be seen by visitors. We had the satisfaction of seeing the specimen a few days since, and can speak to the accuracy of the figures we have reduced, with one exception. The form and texture of the wing is the remarkable character of the genus. This, as represented, is short and much rounded, and it was stated to be of a soft texture. So far as we could observe, without handling the specimen, the quill-feathers are soft, loose and flexile, they would be scarcely capable of raising or sustaining a bird of so heavy a form, and could only aid the running powers, which were mentioned to be very swift, and are a remarkable carrying out of the wing-structure of the New Zealand birds. In the figure, this flexile texture is not sufficiently expressed, and neither Mr. Gould's plate, nor our reduction from it, convey the idea of that structure. We have great hopes that some of those other gigantic birds, hitherto considered as only fossil, will still be discovered. All our information tends to show, that at a comparatively very late period, these birds have existed; and we do not know how lately whalers and sealers may have been feasting on the last of these remarkable creatures, without any one near to rescue even a mutilated bone or feather. The following extract from the *Gardeners' Chronicle* of last year bears upon this subject. "We find the following in a recent number of the *Sidney Herald.* If Mr. Taylor can be relied on, this bird may probably be still discovered alive, as Europeans advance into the southern island of New Zealand. In the second number of the *New Zealand Magazine*, and in a paper by the Rev. R. Taylor, on the Geology of New Zealand, is the following statement: — 'Mr. Meurant, employed by the Government as native interpreter, stated to me, that in the latter end of 1813, he saw the flesh of the Moa in Molyneaux Harbour. Since that period he has seen feathers of the same kind in the natives' hair. They were of a black or dark colour, with a purple edge, having quills like those of the albatross in size, but much coarser. He saw a Moa bone which reached four inches above his hip from the ground, and as thick as his knee, with flesh and sinews upon it. The flesh looked like bull beef. The slaves, who were from the interior, said that it was still to be found inland. The natives told him, that the one whose flesh he had seen was a dead one, which they had found accidentally. That they had often endeavoured to snare them, but without success. A man named George Pauley, now living in Foveaux Straits, told him he had seen the Moa, which he described as being an immense monster, standing about twenty feet high. He saw it near a lake in the interior. It ran from him, and he also ran from it. He saw its footmarks before he came to the river Fairi and the mountains. Thomas Chapeland, the man who interpreted for Meurant, was well acquainted with the Maori language. He also saw the flesh, and at first they thought it was human.' "

As our acquaintance with the birds of the southern hemisphere and with the less known islands increases, we shall in all probability gain more information respecting the "wingless birds" as they have been termed, and be able better to trace the modifications of that remarkable ornithic deviation, where the important and characteristic organ is either abortive or rendered incapable of its functions by a peculiarity of structure. The attention of the Linnæan Society was lately called by Mr. Westwood to the existence of a "wingless bird" on Lord Howe's Island, situate between New Holland and Norfolk Island. Here Captain Poole, of the East India Company's service, discovered the bird in question. It is about the size of a rail, and was considered good eating by the settlers. A note from Mr. Westwood, since received, states, that specimens had reached Sydney, and might soon be expected in this country.

If we except the *Notornis* already mentioned, and the singular bird from Africa lately described by Mr. Gould, under the name of *Balæniceps*, there has been no *great* additions made to our ornithological knowledge or collections during the past year. Some very interesting and beautiful species were procured by the Rattlesnake, on her surveying voyage around the north coast of New Holland, and these have been noticed in our account of the Ornithology of Section D, of British Association (*Contrib.* 1850, p. 85); so also in our last part was *Menura alberti* described (*Contrib.* 1850, p. 142–18). We have mentioned the traces received of the existence of a wingless bird in Lord Howe's Island, and the existence of a large bird in the interior of Madagascar has almost been proved by the exhibition of its eggs at a recent scientific meeting in Paris.

"At yesterday's sitting, M. Geoffrey St. Hilaire presented the bones and eggs of a huge bird, a native of Madagascar. Two of the eggs are entire but the other is broken. It is calculated, from the measurement made, that each of them can contain eight litres of liquid, or as much as six ostrich eggs, or 148 hen eggs. M. Geoffrey St. Hilaire supposes this gigantic bird to be a perfectly distinct genus. He has given to the genus the name of *Æpyornis*, and to the species that of *maxima*. The remains exhibited yesterday were last year obtained at Madagascar, by a merchant captain, named Abadie, and by him sent to the Isle of Reunion and thence to France." —*Galignani.**

The remarkable bird described by Mr. Gould under the name of *Balænicepe rex*, was procured by Mr. Mansfield Parkins, during an excursion to the White Nile, along with a considerable collection of other birds, which have been placed in Mr. Gould's hands to describe. We enjoyed an opportunity lately of examining the specimen considered to be a male (both sexes were procured), and noted down the following description. The accompanying outlines will give some idea of the form and proportions of the bill. (See Pl. 68.)

The specimen is, *above*, uniformly of a brownish-gray, of a deeper and bluer tint on the scapulars, secondaries, quills and tail; *beneath*, the tint is much paler, the feathers on the breast lanceolate and darker in the centre, and those of the flanks having the shafts dark and conspicuous. The specimen certainly is in immature and not perfectly full plumage, and it is probable, that in the full breeding dress, the upper parts will a good deal resemble the colouring of *Ardeola virescens* and its allies. On the occiput, which is at present furnished with a comparatively short tufted crest, new feathers of a darker and fresher bluish tint are making their appearance; on the lower part of the neck and back, new lanceolate feathers are appearing of the dark bright reflected green of *A. virescens*, bordered with a clear narrow pale margin. Some of the scapulars are coming in of the same colours, and we have little doubt, that the whole back, when in a perfect state, will exhibit this plumage. The scapulars are broad but lengthened, reaching nearly to the rump; the secondaries are long, slightly exceeding the quills, and at the ends pliant and hanging over; the quills are *heron-like*, the third longest, and are of that opaque (both above and below) gray so peculiar in the family; extreme tips of quills black; the entire wing is that of a *heron*, but with an infusion of crane-like structure in the secondaries and covers. The tail exhibits nothing peculiar, is square and as in the Herons, it indicates by the young feathers that it would also be of the dark green colour of the adult upper parts. Underneath, the plumage does not present any peculiarities; but upon the breast where the feathers are lanceolate, we have many new ones appearing, having a dark centre and broad pale edges, which would exhibit a more variegated plumage when perfected than that which now clothes it.

---

* We shall print the entire account given in the *Comptes Rendus* in our next part.

The very extraordinary bill which has influenced Mr. Gould in his views of its affinity, slightly recedes upon the forehead, the mandible has a very strong central keel, projecting in the fore part upon the inside of the palate, and terminating by a very powerful hook, evidently intended as a formidable weapon in seizing its prey. The sides of this part are dilated, and though externally showing no inequality, are found on the inside to be strengthened by a strong elevated rib, bordering each side a short distance from the edge. The nostrils are high, nearly close to the edge of the keel, and covered with a membrane or skin, not situate in the groove by the side of the keel as in the *Pelicanidæ;* a bare space extends from the base to the anterior edge of the eye, and to the gape. The maxilla is formed of two powerful rami, the cutting edges sheathing in the mandible. The tongue unfortunately had been removed. The wide space between the rami of the maxilla would seem at first to indicate a pouch; but we do not perceive or consider that there is any, or any power of dilitation or distention beyond what would be warranted by their wide form, certainly none such as we have in the true pelicans, or in *Sula* or *Carbo*. In the true Pelicans also, the opening of the larynx is far advanced upon the palate, in

Balænicepa it must be beyond the line of the base of the bill, as it had been cut away. The legs are not long in proportion to the size, but the toes are lengthened and are completely destitute of any connecting web or membrane; the hind toe is articulated on the same plane as the others, and rather upon the inside or inclining inwards, which Mr. Gould considers as indicating the pelicanoid form of a grallatorial foot.

Entire length of specimen	5̇2.
Of wing to longest quill	2̇7.
Bill to extremity of gape	9̇.8̈.
,, to base or division from bare facial skin	9̇.2̈.
,, to eye, centre of	1̇0.
Depth of upper mandible at base . .	3̇.5̈.
Depth of bill at base of ramus of under maxilla	5.
Breadth of bill above at widest part . .	4̇.2̈.
Entire length of leg from knee to plane of toes	2̇5.5̈.
Bare part of tibia, outside . . .	5̇.
,, ,, inside	6̇.
Length of tarsus	1̇1.5̈.
Of toes, outer	6̇.2̈.
,, centre	8̇.
,, inner	7̇.2̈.
" hind	5̇.

In our own country, to judge from the pages of the Zoologist, many rare visitants have occurred. Among these, it seems ascertained, pp. 2650 and 2734, that the American Gray Shrike has been killed in Warwickshire and one or two other places. The Rev. J. Smith, Monquhitter, mentions a specimen of the Pied Flycatcher killed near Brackly Castle, Aberdeenshire, and of the Woodlark, in the plantations of Duff House in Banffshire—this being their first noticed occurrence in Scotland. Another curious subject recorded in the same volume, is the unusual number of Waxwings which appeared in 1849-50. The direction of the flights was from east to west, and the principal localities the eastern or coast districts of Durham and Yorkshire on the north, and of Norfolk, Suffolk, Essex and Kent on the south. They were observed from November, 1849, to March, 1850, January having been the principal month of their appearance, and during which no fewer than 429 are recorded having been killed; while during the whole time they were observed, 586 specimens were known to have been obtained—a most useless slaughter. We are glad to observe the form of the tail in the Snipes is beginning to attract attention; and we shall ascertain soon what is the extent of the variation, and whether *S. brehmi* is a good species. The bird mentioned, p. 2073, only differed in the proportion of the length of the tail-feathers, and is not stated to possess sixteen as *S. brehmi* should do.

ORNITHOLOGICAL NOTES.

By H. E. STRICKLAND.

I. ON AN HITHERTO UNNAMED SPECIES OF *DACNIS.*

DACNIS MELANOTIS, Strickland.

THIS species was long since figured in Buffon's Planches Enluminées, pl. 669, but has never yet received a specific name which can be logically retained. By older authors it was regarded as a variety of their *Certhia* or *Dacnis cayana*. Mr. Gray was the first to distinguish it specifically; but he erroneously applies to it the Linnæan specific name *cayana*, and has moreover figured its head under the name of *D. cyanocephala*. The two species may be thus distinguished:—

1. *Dacnis cayana* (Linn).

Sylvia cayanensis cœrulea, Briss. Orn., vol. iii. p. 534, pl. 28, fig. 1.

Blue Manakin, Edwards' Birds, pl. 263, fig. inf.

Motacilla cayana, Linn. Syst. Nat., vol. i. p. 336.

Sylvia viridis, Briss. Orn., vol. iii. p. 531, pl. 28, fig. 4.

Motacilla cyanocephala, Gm. Syst. Nat., vol. i. p. 990.

Fringilla cœrulea, Koelruter in Nov. Com. Petr., vol. xi. p. 434, pl. 15, fig. 6.

Fringilla cyanomelas, Gm. Syst. Nat., vol. i. p. 924.

Nectarinia bicolor, Becklemichew in Nouv. Mém. Soc. Mosc., vol. i. p. 378, pl. 23.

Dacnis bicolor, Gray, Gen. Birds, sp. 5.

Nectarinia cyanocephala, Swains. Zool. Ill., ser. i. pl. 117.

Dacnis cyanocephala, Gray, Gen. Birds, sp. 2 (nec plate 34, fig. 2.)

Dacnis cyanater, Less. Traité Orn., p. 458.

Blue; front, chin, throat, upper back, wings and tail, black; remiges and wing-covers edged with blue.

Habitat. Brazil, Cayenne (?)

2. *Dacnis melanotis*, Strickland.

Pitpit bleu de Cayenne, Buff., Pl. Enl. 669, figs. 1, 2.
Sylvia cayana, γ., Lath. Ind. Orn., p. 546.
Dacnis cayana, Gray, Gen. Birds, sp. 1.
Dacnis cyanocephala, Gray, Gen. Birds, pl. 34, fig. 2.

Blue; front, cheeks, *ear-covers, sides of neck*, upper back, wings and tail, black; *middle of belly and lower tail-covers, white.*

Habitat. Cayenne (?), Demerara.

GOLDANA CAPISTRATOIDES.

CONTRIB. ORN. 1849, p. 128.

THIS bird should have been called *Drymocotaphus capistratoides*. It is incorrectly stated that the bird "belongs to Mr. Blyth's genus *Goldana*," whereas the latter word was not coined by Mr. Blyth, but by Mr. G. R. Gray, in the first edition of his "List of the Genera of Birds," 1840, p. 25, as a synonyme of *Brachypteryx*, Horsfield, on the alleged ground that the latter word was preoccupied in entomology. This, however, was a mistake, the name *Brachypteryx* not having been repeated in any other department of zoology, if we may trust Agassiz's Nomenclator Zoologicus. Mr. Gray seems to have perceived this error, as in his two later editions of the "Genera of Birds," he restores the name *Brachypteryx* and omits his name *Goldana* altogether; consequently the latter name should not have been applied to the species *nigrocapitata* and *capistratoides*, which belong to a distinct generic type from *Brachypteryx montana*, and I would therefore substitute the generic name, *Drymocotaphus*, which Mr. Blyth has proposed.—*H. E. S.*

ORNITHOLOGICAL NOTES

BY H. E. STRICKLAND.

ON THE TYPE OF THE GENUS *DULUS*, VIEILL.

Two very distinct forms have been hitherto confounded under the genus *Dulus* of Vieillot. Both are natives of the island of St. Domingo, whose Ornithology was far better known near a century ago, when Brisson wrote, than it has been of late years, when war and barbarism have expelled science from its shores. The difficulty of procuring specimens from that island, has been the cause of the confusion in question, and of the length of time that it has remained uncorrected. Some specimens, which Mr. G. R. Gray obligingly showed me at the British Museum, have however enabled me to clear up the matter.

Brisson, in his Ornithologie, described and figured a bird under the name of "Tangara de S. Dominique," which was also figured in Buffon's Planches Euluminées, pl. 156, f. 2, and which Linnæus denominated *Tanagra dominica.* Brisson informs us, that this bird was called in St. Domingo "Esclave" or Slave, a name which Buffon adopts in his Histoire Naturelle des Oiseaux. In 1816, Vieillot, in his Analyse d'Une Nouvelle Ornithologie Elémentaire, established his genus *Dulus*, defining the characters of the bird in question, and quoting it as the type of the genus, under the name of "*Tangara esclave*, Buff." Thus far there was no ambiguity in the matter. But Vieillot had himself been in St. Domingo, and had observed the bird frequenting the palm trees of that island. Hence, in an evil hour, he was induced to change the Linnæan specific name of *dominicus* to *palmarum*, and describes the bird as *Dulus palmarum* in the Nouveau Dictionnaire d'Hist. Nat. vol. x. p. 435. Now it happened, that there was already a Tanagrine bird, named "Le Palmiste" by Brisson, and *Turdus palmarum* by Linnæus, which had nothing whatever to do with the *Dulus dominicus.* The similarity of the specific names, however, induced some authors to unite the "*Turdus palmarum*" of Linnæus with the *Dulus palmarum* of Vieillot, and the mistake was the more readily adopted, as both these birds are found in St. Domingo. A moment's glance, however, at the two birds (see their figures in Buff. Pl. Enl. 156, f. 2, and 539, f. 1.), will serve to show their completely generic distinctness.

Mr. G. R. Gray, in his Genera of Birds, Appendix 16, perceiving that the "*Turdus palmarum*" of Linnæus was a Tanagrine bird, closely allied to *Arremon*, and supposing it to be the type of *Dulus*, Vieill., merged the latter genus in *Arremon*, and quoted *Tanagra dominica*, Linn., as a synonyme of his *Arremon palmarum*. The Prince of Canino, though he is aware of the distinctness of these two birds, has fallen into the common error of regarding the "*Turdus palmarum*," Linn., as the type of *Dulus*. The arrival, however, of specimens of both birds from St. Domingo has now cleared up the matter, and restored *Dulus*, Vieillot, with the species *dominicus* (Linn.) as its type to its proper rank as a genus. The *Turdus guianensis*, Gm., founded on Buff. Pl. Enl. 398, f. 1., is perhaps referable to the same species, and certainly to the same genus.

One other species only of true *Dulus* is known, the *D. nuchalis* of Swainson, said to inhabit Brazil. It is closely allied to *D. dominicus*, but differs in having a transverse bar of white on the nape. Swainson's specimen is now at Cambridge, where I examined it some years ago.

We require farther information as to the structure and habits of *Dulus* before we can pronounce upon its true place in the system. Swainson placed it in the sub-family *Oriolinæ*, a position wholly untenable, as *Oriolinæ* is an old-world group and *Dulus* a tropical American one. It more probably belongs to the *Ampelidæ* or Chatterers, with which it agrees in the general form of the beak, wings, and feet.

The "*Turdus palmarum*," Linn., though nearly allied to *Arremon*, differs in having a longer beak, and will therefore no doubt be regarded by modern systematists as generically distinct. I therefore propose for it the name of *Phænicophilus*, and the type will stand thus:—

Phænicophilus palmarum (Linn.), Buff. Pl. Enl.
Arremon palmarum, Gray.
Dulus palmarum, Bon. (nec Viell.)

A second species, lately indicated by the Prince of Canino, is

Phænicophilus poliocephalus (Bon.)
Dulus poliocephalus, Bon., in Rev. et Mag. Zool., March 1851.

Habitat, St. Domingo.

ORNITHOLOGICAL NOTES.

Nouvelle Classification des Picinées ou Pics, devant servir de base à une Monographie de ces Oiseaux Grimpeurs, accompagnie de planches peintes. Par M. Alfred Malherbe. 8vo. Metz, July, 1850.

After several years devoted to the study and classification of the family of *Picidœ*, M. Malherbe has issued the above pamphlet as a kind of *Prodromus* to the monograph which he intends to publish of the entire family. He here gives us his definitions of the genera, and the names and synonymes of a few illustrative species of each genus, and adds such critical observations as appear necessary. Before referring to the arrangement of M. Malherbe, we must make a few remarks on his nomenclature. And here we regret to find, that in a work intended as a permanent authority for the study of *Picidœ*, the author should have boldly discarded the whole of the generic names previously established, except two, and substituted an entirely new terminology of his own. He says, "To avoid the confusion caused by the creation of new genera, which are perhaps too numerous in Ornithology, I have thought it useful to adopt a termination which has the great advantage of reminding us of the Linnæan genus, of which these genera are subdivisions. Thus, all my genera of *Picidœ*, with four toes, are indicated by the termination *picos* or *picus*, and those with three toes, by the termination *picoides*."

At the time — some eighty years ago — when naturalists first began to add to, or to subdivide the genera of Linnæus, it might have been worth considering whether the principle adopted by M. Malherbe was attainable in practice, and whether the *memoria technica* which it afforded, was sufficiently valuable to justify the use of such sesquipedalian words as it would frequently produce. But it is vain to hope for any such symmetrical system of nomenclature now, when some 20,000 generic names have been introduced into zoology; and if it cannot be uniformly adopted throughout the whole animal kingdom, why are we to be expected to make an exception in favour of one family of birds? The only safe principle to follow in zoological nomenclature, is the law of priority, rigidly carried out. Eight years ago, the British Association issued a code of rules based upon this great principle. These rules have since been translated, discussed, and substantially adopted by the most eminent naturalists of France, Germany, Italy, Sweden, and America, and it is therefore to be regretted, that so meritorious a zoologist as M. Malherbe should have departed from them.

For some reason which he does not explain, the author spoils the uniformity even of his own nomenclature, by using in some cases the termination *picos*, and in others *picus*. The termination *picos* cannot, in any case, be used in zoology; *first*, because there is no such word in the Greek language as πικος; and, *secondly*, because, if there were, it would become *picus* when adopted into the Latin form employed in zoology. The rules for Latinising Greek words are short and simple, and had the author followed them, he would not have issued such a word as *Phaiopicos*, but would have written it *Phœopicus*; still less would he have given us a word half French and half Latin, in the case of *Colombpicus*, when it might have been so easily made into *Columbpicus*.

It will be useful to enumerate the nineteen genera of *Picidæ* adopted by M. Malherbe; and we will at the same time add the synonymous generic names which are equivalent to his, and which, on the ground of priority, ought to be retained.

In thus making a *concordance* between his system and that of others, we do not imply that the previously formed genus is in each case exactly coincident in extent or in definition with his genus; but merely that the Malherbian genus *includes the type-species* of the previous author, whose generic name must therefore be regarded as synonymous with it, and be retained accordingly.

1. *Megapicos*, Malh. = *Campephilus*, Gray, 1840. Type, *C. principalis* (Linn.)

2. *Dryopicos*, Malh., Section I. = *Dryocopus*, Boie, 1826. Type, *D. martius* (Linn.)

——————, Section II. = *Hemilophus*, Swains., 1837. Type, *H. mackloti* (Wagler.)

3. *Picus*, Linn., Malh. = *Picus*, Linn., 1735. Type, *P. major* (Linn.)

4. *Picoides*, Lacep., Malh. = *Picoides*, Lacep., 1799. Type, *P. tridactylus* (Linn.)

5. *Micropicos*, Malh. = *Hemicercus*, Swains., 1837. Type, *H. concretus* (Temm.)

6. *Celeopicos*, Malh. = *Celeus*, Boie, 1831. Type, *C. flavescens*, (Gm.)

7. *Phaiopicos*, Malh. = *Meiglyptes* (more properly *Miglyptes*), Swains., 1837. Type, *M. tristis* (Horsf.)

8. *Dendropicos*, Malh. = *Dendrobates*, Swains., 1837. Type, *D. fulviscapus* (Licht.)

9. *Mesopicos*, Malh. — This is an original genus of M. Malherbe's. The type-species is *M. goertan* (Gm.) This genus is included by Swainson and Gray in *Dendrobates*, but M. Malherbe separates it on the ground of its having the external toes nearly equal (in his *Dendropicos*, the hinder one is commonly longest), the fourth, fifth, and sixth remiges longest (in *Dendropicos*, the third, fourth, and fifth are longest), and in the plumage being plain olivaceous (in *Dendropicos* it is spotted or banded). These characters seem to us barely sufficient for generic separation.

10. *Indopicus*, Malh. = *Chrysocolaptes*, Blyth, 1843. Type, *C. sultaneus* (Hodgs.)

11. *Brahmapicus*, Malh. = *Brachypternus*, Strickland, 1841. Type, *B. aurantius* (Linn.)

12. *Chloropicoides*, Malh. = *Tiga*, Kaup, 1836. Type, *T. tridactyla* (Swains.)

13. *Chloropicos*, Malh., Sections I., II. = *Gecinus*, Boie, 1831. Type, *G. viridis* (Linn.)

———————— Section III. = *Chloronerpes*, Swains., 1837. Type, *C. rubiginosus* (Swains.)

14. *Chrysopicos*, Malh., Section I. = *Campethera*, Gray, 1841. Type, *C. brachyrhyncha* (Swains.)

———————— Section II. = *Chrysoptilus*, Swains., 1831. Type, *C. punctigula*, Bodd.

15. *Colombpicus*, Malh. = *Leuconerpes*, Swains., 1837. Type, *L. dominicanus* (Vieill.)

16. *Melanopicos*, Malh., Sect. I. = *Melanerpes*, Swains., 1831. Type, *M. erythrocephalus* (Linn.)

———————— Section II. = *Tripsurus*, Swains., 1837. Type, *T. flavifrons* (Vieill.)

17. *Zebrapicus*, Malh. = *Centurus*, Swains., 1837. Type, *C. carolinus* (Linn.)

18. *Linneopicus*, Malh. — An original genus, of which *L. herminieri* (Lesson) is the type. It seems closely allied to *Melanerpes*, especially to *M. torquatus*.

The following are the characters assigned to *Linneopicus:* — "Beak long, pointed, and a little curved; the sides compressed. Lateral grooves hardly visible on the upper mandible. Chin covered with small hair-like feathers, as far as the symphysis (*échancrure*), which extends half the length of the beak from the rictus. Fourth and fifth remiges longest and almost equal; sometimes the fourth or fifth exceeds the other, but very slightly; the third differs little from the two last mentioned. Tail long, graduate. Anterior outer toe longer than the posterior outer toe. No crest. Quills of remiges and rectrices blackish. Neither sex has any moustache or band on the lower jaw."

19. *Geopicos*, Malh., Section I. = *Colaptes*, Swains., 1827. Type, *C. auratus* (Linn.)

——————— Section II. = *Geocolaptes*, Swains., 1837. Type, *G. olivaceus* (Lath.)

From the above summary, it appears that though M. Malherbe has introduced seventeen new generic names, only two of these are new or original genera. All the remaining generic groups had been long since recognised by other authors, their definitions drawn up with more or less exactness, and their type-species permanently determined. But though the chief generic subdivisions of the *Picidæ* were thus already prepared to M. Malherbe's hand, this gentleman's labours are not the less to be commended, for the diligence with which he has investigated and generalized the characters of the groups, and determined the generic position of the numerous species of this family. — *H. E. S.*

ON SOME NEW SPECIES OF *CALLISTE*.

BY PHILIP LUTLEY SCLATER, ESQ.

I HAVE been lately attempting to form a collection, and arrange as complete a synonymy as lay in my power, of the *Tanagridæ*, of which family a vast number of new species have been recently described; and particularly of the genus termed, not inappropriately, *Calliste*, the most splendidly coloured group of the whole series. Among these I find three unnamed species, very closely allied to the *Tanagra punctata* of Linnæus, and forming with that a small section of the genus *Calliste*, which I now proceed to describe.

The whole number of species of this genus that I am now acquainted with is about forty-four, including certain aberrant forms, denominated *Procnopis* by M. Cabanis, but which I cannot at present determine to be sufficiently distinct to warrant generic separation.

Mrs. Strickland has been so kind as to draw figures of two of the new species here described; of the third I shall attempt as clear a description as possible, giving at the same time, for the sake of comparison, the specific characters of the only previously recognised species of the group.

CALLISTE PUNCTATA, LINN.

Tangara viridis indica punctulata, *Brisson*, Orn. vol. iii. p. 19.——Tanagra punctata, *Linn.* Syst. Nat. vol. i. p. 316; *Desmarest*, Hist. Nat. des Tang. pl. 8 and 9.——Calliste punctata, *Gray's* Genera; *Edwards*, pl. 262; Pl. Enl. 133, fig. 1.

♂ Calliste supra viridis, nisi in dorso inferiore, nigro punctata; loris atris; pennis caudâque nigris viridi limbatis; subtus flavescenti-albida, gutture pectoreque nigro punctatis, rostro pedibusque nigris.

Long. tota, 4̇.5̈; pennæ, 2̇.5̈.

♂ Minor, punctis minoribus et levioribus.

Long. tota, 4̇.1̈; pennæ, 2̇.3̈.

Habitat in Cayanâ et Demerarâ.

♂ Above, green; head, neck, and upper back, spotted with black; lores black; wings and tail, black, edged with green; beneath, yellowish white; throat and breast spotted with black; beak and feet black.

Whole length, 4̇.5̈; of wing, 2̇.5̈.

♂ Smaller; spots smaller and lighter.

Whole length, 4̇.1̈; of wing, 2̇.3̈.

Inhabits Cayenne and Demerara.

This bird, of which I give a description for the purpose of comparison with the following three, newly described, was first noticed by Brisson as "*Tangara viridis indica maculata.*" Linnæus, quoting this description, and associating with it Edwards' figure of the "*Parus maculatus,*" formed hence his *Tanagra punctata.*

Buffon's figure, Pl. Enl. 133, fig. 1, also represents this species; and Desmarest has figured both sexes in his Histoire Naturelle des Tangaras. It appears to be a common bird in Cayenne and Demerara, from which country I have seen many specimens.

CALLISTE VIRESCENS, Sclater.

Plate lxix. Fig. 1.

Tangara tachetè de Cayenne, Pl. Enl. 301, fig. 1.

Calliste suprà subtùsque viridis, maculis paucis nigris in pectore et gutture notata; dorso medio viridi-cœruleo; alis caudâque nigris eodem plumbeo-cœruleo limbatis; rostro pedibusque nigrescentibus.

Long. tota, 4̇.0̈; pennæ, 2̇.2̈½.

Habitat in Cayanâ.

Above and below green, slightly spotted on the breast with a faint black medial speck on each feather; middle of the back, between the wings, greenish blue, which also forms the edgings of the otherwise black feathers of wings and tail; bill and feet blackish.

Whole length, $\dot{4}.\ddot{0}$; wings, $\dot{2}.\ddot{2}\tfrac{1}{2}$.

Inhabits Cayenne.

I believe the bird figured Pl. Enl. 301, fig. 1, and which has hitherto been confounded with the true *C. punctata* (Linn.), to be of this species, of which I have two specimens, bought at a London dealer's. There is a similar one at the British Museum, and I have also seen one other. I believe them all to be in a somewhat immature state, from the general appearance of their plumage. I should suppose that the adult bird would show more yellow beneath.

The present bird may be readily distinguished from the three affine species, by the comparative absence of spots, the leaden-blue of the back, wings, and tail, and the smaller size of the beak. It is the smallest of the four species here described.

CALLISTE XANTHOGASTRA, Sclater.

♂ Calliste supra viridis, nisi in dorso inferiore, nigro punctata; loris atris; caudâ, pennis, et spatio inter alas nigris, latè cœrulescenti-viridi limbatis; infrà flavo-viridis, maculis in pectore nigris; ventre medio flavo, lateribus virescentibus; mandibulâ inferiore albicante; superiore pedibusque nigricantibus.

Long. tota, $\dot{4}.\ddot{0}$; alæ, $\dot{2}.\ddot{4}\tfrac{1}{2}$.

Habitat Rio Negro.

Above, green, spotted on head and neck with black; lores black; tail-feathers, wings, and space between them, black, the feathers broadly margined with bluish-green. Below, yellowish-white, with black spots on the breast; belly in the middle yellow, sides greenish; upper mandible and feet black, lower whitish.

Whole length, $\dot{4}.\ddot{0}$; wing, $\dot{2}.\ddot{4}\tfrac{1}{2}$.

Inhabits Rio Negro.

I am indebted to Mr. Edward Wilson for the loan of this bird, which M. Verreaux of Paris received from the Rio Negro along with other new and rare species of the same genus. It is closely allied to the following species, *C. chrysophrys*, Sclater, but the colouring beneath is bright yellow instead of white, and the black spots are much less conspicuous. The colour which lines the wing and tail-feathers is also more of a bluish tinge, and not so bright as in *C. chrysophrys;* and there are no traces of that golden hue on the front and superciliary feathers, whence the latter species takes its name.

CALLISTE CHRYSOPHRYS, Sclater.

Plate lxix. Fig. 2.

Spotted Emerald Tanager, *Lath.* Gen. Hist. vi. p. 19.
Calospiza punctata, *Wiegm.* Arch. 1844, p. 286.?
„ „ *Tschudi,* Fauna Peruana, p. 203.?

Calliste suprà lætè viridis, capite summoque dorso nigro maculata; loris atris; fronte, genis, superciliisque aureis; remigibus secondariis tectricibusque nigris, latè cœruleo-viridi marginatis; primariis caudâque nigris viridi limbatis; subtùs cœrulescenti-candicans, punctis rotundis in pectore nigris; ventre medio crissoque flavicantibus, lateribus virescentibus: caudà infrà cœrulescente, pennis fuscis; pedibus et rostro nigris, mandibulâ inferiore albo notatâ.

Long. tota, 5̇.0̈; alæ, 2̇.8̈.

Habitat in Columbiâ, Venezuelâ, et insulâ Trinidad.

Above, golden green, passing into golden-yellow on front and supercilia, spotted, principally between the wings, with black; lores black; secondaries and tertials broadly edged with bright greenish-blue; tail black, edged with the same green as the back; breast bluish-white, with conspicuous round black spots; belly yellowish, sides green; tail below bluish, wings dusky; feet and beak black; lower mandible crossed with a white stripe.

Whole length, 5̇.0̈; wing, 2̇.8̈.

Inhabits Columbia, Venezuela, and Trinidad.

I have little doubt that I am correct in quoting the second synomyme as belonging to this species, though M. Tschudi does not say any thing of the golden yellow of the front and supercilium, which are very bright in the adult birds. The specimen here figured was sold to me by Mr. Cuming, as having been brought from Bolivia by Mr. Bridges, but I believe it nevertheless to be a Venezuelan specimen, from its resemblance to another skin of this species from that locality. I have likewise skins of the same bird from Trinidad and Santa Fè de Bogota, and Mr. E. Wilson has lent me one from Anolaima; it is also from New Grenada. In the British Museum are examples brought by Mr. Dyson from Venezuela. The Bogota and Anolaima birds are not quite so long in the wing as the Venezuelan, and there is not quite so much golden colour on the head, but this is probably owing to age or sex. The Trinidad skins agree very closely with the Venezuelan, except in the wings being $\overset{''}{2}$ shorter.*

It may be distinguished from *Calliste punctata* (Linn.), by the purer white of the breast, the golden colouring of front and head, and the broad blue edges of the secondaries and tertials, which in *C. punctata* are of the same green as the rest of the body above.

---

* Since the plate of *C. chrysophrys* was engraved, the Prince of Canino has described a species under the name of *C. guttulata*, which is probably the same, though his expression, "croupion jaune," seems hardly applicable to it. See COMPTES RENDUS, Jan. 20, 1851.

MONOGRAPHIE DES LOXIENS.

We have received an important work just published in Holland—"*Monographie des Loxiens par* Ch. L. Bonaparte *et* H. Schlegel; *ouvrage accompagné de 54 planches coloriées, Lithographiées d'après les dessins de M. Bädeker et autres naturalistes—Leiden et Dusseldorf*, 1850, *4to., pp.* 72.—The authors enter at length into the affinities and arrangements of the *Loxiadæ;* and although we do not agree with all their views, we consider the observations and information contained in the introduction of so much interest, that we have printed that portion of it entire. The work itself is indispensable to every ornithologist, and the plates of all the species are executed with great fidelity and distinctness. In the catalogue of Willis, the price is entered at £4, 7s. 6d.; in that of Williams & Norgate, at £3, 15s.

"Les Auteurs sont peu d'accord quant aux limites de la Famille des Fringillides, qu'ils étendent plus ou moins pour y comprendre parfois, non seulement tous les Conirostres granivores, mais même plusieurs Dentirostres comme les *Tanagrides*, des Subulirostres comme les *Alouettes*, et qui pis est jusqu' à des Volucres, tels que les *Phytotomes* à bec dentelé, et les *Colious* qui n'ont absolument rien de commun avec nos oiseaux. Quant à nous, après l'avoir restreinte de plus en plus au fur et à mesure que nous l'étudiions dans ses rapports, nous en sommes venus à en exclure, non seulement les *Alouettes*, les *Tangaras* et ces autres Oiseaux qui n'ont avec elle que des rapports éloignés, mais même les *Plocéides* qui en sont certainement beaucoup plus proches. Notre Famille des *Plocéides*, dont le type se retrouve dans les différents genres de *Tisserins* qui forment le noyau normal de la Famille, sous le nom de *Plocéens*, se compose en outre de la Sous-famille des Veuves (*Viduinae*), et d'une troisième que nous nommons *Estreldinæ*, composée de ces nombreux et élégants petits Passereaux connus généralement sous les noms de

Bengalis, *Sénégalis*, etc., qui vivent tous en Asie, en Afrique ou dans l'Océanie, et que la conformation de leur bec organe auquel on a coutume de donner beaucoup trop d'importance, a fait jusqu'ici ranger parmi les *Fringilliens*, malgré leur première remige courte et les autres traits qui les distinguent. Les *Plocéides* en effet diffèrent des *Fringillides* précisément comme les *Sturnides des Ictérides*. Tandis que les *Plocéides*, tous étrangers à l'Europe, sont confinés dans les parties chaudes de l'ancien continent, les *Fringillides* se trouvent répandus par toute la terre, mais plus spécialement attachés à l'hémisphère boréal ; c'est à dire qu'ils appartiennent plus proprement à notre Europe, à la Sibérie, au plateau central de l'Asie, et à l'Amérique septentrionale.

"Quoique nous l'ayons ainsi circonscrite, cette Famille ne laisse pas que d'être encore fort riche en espèces, n'en comptant pas moins de 450, réparties en presque cent genres dans les six Sous-familles des *Emberizinæ*, *Spizinæ*, *Geospizinæ*, *Pitylineæ Fringillinæ*, et *Loxiinæ*. Ces deux dernières, plus intimement liées peut-être que les autres, forment pour ainsi dire le centre de la Famille, tant par le nombre, qui excède celui de toutes les autres ensemble, que par la conformation plus normale des espèces.

"La première Sous-famille, celle des *Embériziens*, est bien caractérisée par la contraction de la mandibule supérieure, par cela plus étroite et s'emboîtant dans l'inférieure, et par le tubercule du palais (appelé *grain d'orge*) plus ou moins développé, mais toujours assez pour que le palais soit convexe ou plane pour le moins, au lieu d'être concave ou excavé comme dans les cinq autres Sous-familles. Les genres *Plectrophanes* avec ces cinq espèces de Nord des deux mondes, *Cynchramus* avec son unique Européenne à plumage d'Alouette, *Schœnicola* avec ses trois à bec de forme variée, mais si semblables par la couleur, *Fringillaria* dont deux seulement des douze espèces Africaines s'égarent pour ainsi dire en Europe, et *Emberiza* composent à eux seuls ce premier groupe. Vingt espèces au moins, toute d'Europe ou de l'Asie septentrionale, appartiennent encore à ce dernier genre quoiqu' ainsi restreint.

"La seconde Sous-famille, celle de nos *Spiziens* qui se rattache d'un côté aux *Emberiza* et se perd de l'autre dans les *vrais Pinsons*, paraît être essentiellement Américaine, car non seulement elle a son siége principal dans l'Amérique du Nord, mais elle s'étend dans la méridionale, domain exclusif des *Tangarides*, tandis qu'elle n'est représentée que par quelque espèces perdues en Europe et dans le Nord de l'Asie. Outre la transition déja notée des *Euspiza* avec les *Embériziens*, et celle non moins évidente des *Struthus* et des *Paroaria* qui sont presque des Pinsons, avec les *Fringilliens*, il existe des rapports directs avec les *Pityliens*, voire même des points de contact (sans l'intermédiare de ceux-ci) avec les véritables *Tanagriens;* le genre *Spiza* surtout, trop anormal peut-être pour donner le nom à la Sous-famille, en ayant jusqu' aux couleur brillantes.

" Nous établissons ainsi la série :

" 1. *Euspiza* avec sept espèces dont deux Américaines, deux Asiatiques, et trois Européennes.

" 2. *Oriturus*, Bp., nouveau genre à bec conique, alongé, a queue très longue et très étagée : il se compose de deux espèces, l'une à plumage varié du Méxique (*Oriturus mexicanus*, Bp.), l'autre de la Sibérie (*Oriturus wrangeli*, Bp.) à plumage uniforme.

" 3. *Melanodera*, Bp., aussi formé pour deux espèces, mais de l'Amérique méridionale si semblables aux Verdiers qu'elles leur avaient été réunies sous les noms de *Chlorospiza xanthogramma* et *melanodera*.

" 4. *Gubernatrix* avec son unique espèce du Brésil, *Gubernatrix cristatella*.

" 5. *Melophus*, Sw., pour une espèce également huppée de l'Asie centrale, *Emberiza lathami* ou *erythroptera*.

" 6. *Lophospiza*, Bp., petit groupe formé par nous pour d'élégants oiseaux peu connus de l'Amérique méridionale, rangés inconsidérément parmi les *Bruants* et les *Linottes*, et confondus avec des *Tanagriens* qui en ont en quelque sorte le plumage.

" 7. *Paroaria*, Bp., réuni à *Spiza*, mais en outrageant la nature. Ces *Cardinaux des Spiziens* sont au nombre de six, qu'il faut chercher dans les Auteurs parmi les *Loxiens*, les *Moineaux* et les *Tangaras*, et que cependant leurs couleurs font rapprocher à la première vue tout aussi bien que l'étude la plus approfondie de leur structure et de leurs mœurs. Ce n'est pas d'eux qu'ou pourra dire que l'apparence est trompeuse ! ... mais bien à propos d'eux que l'on peut répéter qu'un peu de science est pire que l'ignorance la plus complète.

" 8. *Tiaris*, Sw., ayant pour type la *Fringilla ornata*, Wied, (*elegans*, Temm.), du Brésil, a laquelle on a réuni des Oiseaux d'autres contrées et même d'autres Sous-familles.

" 9. *Poospiza*, CABANIS, genre formé pour les *Chipius* d'Azara, si mal placés avec les *Pipilo:* nous en connaissons cinq espèces dont une nouvelle.

" 10. *Phonipara*, BP., comprenant six a sept petites espèces des Antilles et du Mexique, aussi pétulantes que jolies: son type est la *Loxia canora*, GM., à face et poitrine noires, à sourcils et gorge jaune d'or.*

" 11. *Volatinia*, REICHENB., formé pour le *Tanagra jacarini*, L., qu'ils ne faut pas confondre avec la *Fringilla splendens*, VIEILL., seconde espèce du genre, beaucoup plus noire et à epaulettes blanches, et encore moins avec le *Combassou* (*Hypochera nitens*, BP.), qui appartient à la famille Africaine des Veuves.

" 12. *Spiza*, BP., Ces *Spiziens-Tangaroïdes* qui égalent et surpassent même en beauté les Tangaras, par le *Pape* du moins, appelé pour cela *Non-pareil*, auquel se rattachent deux espèces du midi et de l'ouest des Etats-Unis (*Fringilla cyanea et amœna*), et deux autres encore plus méridionales (*Spiza versicolor et leclancheri.*)

" 13. *Struthus*, BP., Ce nom est celui que son type portait en commun chez Boie avec les véritables Pinsons, et qu'Audubon, n'admettant pas sans doute de pareilles restrictions, pourtant si convenables, a changé depuis en *Niphaœ*. Ces Oiseaux nous offrent un bec de Pinson encore plus que les *Paroaria*, et un plumage blanc et noirâtre: nous en connaissons quatre espèces, une de l'Amérique méridionale, une du Mexique, une troisième de la côte ouest de l'Amérique septentrionale qui se retrouve pour le moins dans les îles qui relient l'ancien au nouveau continent, et le *hyemalis*, si commun dans toute la partie orientale de l'Amérique du Nord et qui, en sa qualité de Danoise, mais du Groënland, a été peu judicieusement admise dans l'Ornithologie Européene.

" 14. Ici pourrait se placer le singulier *Pinson bicolore*, TOWNSEND, de Amérique du Nord la plus occidentale, noir à tectrices moyennes des ailes blanches ainsi que les bordures étroites des rémiges et des rectrices, dont les trois extérieures portent en outre une tache blanche à la pointe. Ses habitudes nous l'ont fait regarder comme le type d'un genre sous le nom de *Calamospiza*, tandis que presqu'en même temps M. Audubon, frappé aussi par la conformation de son ongle, l'appellait *Corydalina*.

---

* The bird here alluded to, is the *Fringilla lepida*, Linn. Syst. p. 320 (*Emberiza olivacea*, Linn. Syst. p. 309; *Spermophila olivacea*, Gray, Gen. Birds, App., p. 18.) The true *Loxia canora* of Gmelin is a distinct species, figured by Brown, Ill. Zool., pl. xxiv. f. 1. His original specimen is still preserved in the Newcastle Museum. The cheeks are brown, surrounded by a semicircle of yellow, extending from the chin to the temples. The crown is an olive gray, the back greenish olive, or as Brown describes it, " a pale dirty green."—*H. E. Strickland.*

" 15. *Phrygilus*, CABANIS, pour une dizaine espèces de l'Amérique du Sud la plus méridionale, telles que *Fr. alaudina*, KITTLITZ, *Fr. gayi*, EYEDOUX, et *Fr. diuca*, Molina qui pourrait même former u genre à elle seule.

" Suivent les genres.

" 16. *Passerella*, SW., de l'Amérique du Nord, dont nous connaissons cinq espèces à plumage grivelé, mais bien distincts par leurs becs.

" 17. *Zonotrichia*, SW., qui nous en offre une douzaine presque toutes de l'Amérique septentrionale, parmi lesquelles *Fringilla comata*, WIED, d'un gris brun à plumes bordées de blanc-rousâtre : les joues d'un blanc cendré : le sommet de la tête, la face et la gorge noires : le dessous du corps blanc, mais les plumes cendrées à la base : le bec jaune : la queue très alongée à rectrices égales, la dernière seulement de chaque côté se montrant plus courte.

" 18. *Chondestes*, SW., détaché non sans raison du précédent à cause de sa queue cunéiforme. A son type de l'ouest de l'Amérique septentrionale (*Fringilla grammaca*, SAY), figuré dans l'Orn. Américaine, viendront peut-être s'adjoindre deux autres espèces des Antilles.

" 19. *Passerculus*, BP., avec deux espèces.

" 20. *Coturniculus*, BP., avec six.

" 21. *Peucæa*, AUDUB., avec deux, toutes de l'Amérique septentrionale.

" 22. *Tardivola*, SW. (*Leptonyx*, SW., *Emberizoides* ou *Chlorion*, TEMM., *Coryphaspiza*, GR.), comptant trois espèces dans l'Amérique du Sud, dont *l'Emb. melanotis*, TEMM., est la mieux connue.

" 23. *Embernagra*, LESS., avec ses douze espèces, rappellant comme son mauvais nom l'indique, et les Bruants et les Tangaras, mais appartenant aux Spiziens.

" 24. Puis finalement, *Ammodromus*, SW., avec sept espèces des deux Amériques, dont le bec est beaucoup plus effilé et les pennes de la queue (qui affectaient déjà cette tendance dans les genres précédents), tout-à-fait pointues. Ce caractère si exagéré dans le *Do-*

lychonix oryzivorus a fait donner à divers *Ammodromes* le nom spécifique de *caudacutus*, soit qu'on les ait rangées dans le genre *Fringilla*, ou même dans *Oriolus*.

" La troisième Sous-famille est celle des *Géospiziens*, singulier groupe de Pinsons terrestres, dont on ne connaît que quinze espèces toutes propres aux îles Gallapagos, toutes à plumage sombre, et non moins bien circonscrit par ses caractères zoologiques et ses mœurs, que par la région géographique dans laquelle il se trouve confiné.* Jamais hommage, d'autant plus éclatant qu'il est involuntaire, n'a été rendu suivant nous au Système naturel et au parallelisme de ses bonnes coupes, qu'à propos de ces Oiseaux. Les Ornithologistes qui, adoptant une Famille des *Coccothraustiens* entièrement basée sur le caractère empirique de la grosseur du bec, y placent tous nos *Géospiziens* ensemble, ne peuvent se décider à les separer les uns des autres, quoique les huit *Geospizae* à bec de Coccothraustes, les trois *Camarhynchus* à bec pour ainsi dire de Loxie ou de Perroquet, diffèrent par la bec des trois *Cactornis* et surtout de la *Certhidea* encore plus que les Chardonnerets des Gros-becs. Avouons dont tout haut et explicitement que les Gros-becs ne sont que des Fringilliens à bec épais, comme la *Certhidea* n'est qu'un Géospizien à bec effilé : les *Geospiza*, des Géospiziens à gros bec, comme les Chardonnerets des Fringilliens à bec mince. Toutes les formes de bec (qui varie en grosseur dans le même genre), se retrouvent donc dans chacune des Sous-familles ; et celle dont nous traitons est si évidemment naturelle, que nul jusqu' à présent n'a osé y porter la main, ni même pensé à la démembrer.

" Notre quatrième Sous-famille, celle des *Pityliens*, à été le plus souvent rangée en grande partie, l'on ne sait trop pourquoi, avec les *Tanagrides* dont nous n'avons pas à nous occuper ici. Bien loin en effet de leur appartenir, ils nous semblent même ne représenter parmi les Fringillides que les *Pyrangas*, qui s'éloignent le plus du type Tanagrien ! Aucun Pitylien ne se trouve dans l'ancien monde, et fort peu même dans l'Amérique du Nord : ils abbondent en révanche dans la partie Sud du nouveau monde.

" Les genres *Arremon* avec ses vingt espèces, et *Saltator* non moins nombreux, les relient avec les Spiziens : tandis que *Pipilo*, quoique intimément lié avec *Arremon* par quelques unes de ses dix espèces (beaucoup plus qu'avec *Poospiza* qu'on lui avait réuni !), s'en éloigne davantage, et se rattache au célèbre *Habia* dont Cabanis a fait son genre *Lamprospiza*, et même à *Bethylus* dont on connait maintenant deux espèces rangées parmi les Pies-grièches. Nous avont isolé sous le nom de *Psittospiza** l'élégant *Saltator reifferi* de Boissonneau, et avec le Dr. SCHIFF de Francfort nous appellons *Pyrrhulagra* un nouveau genre dont *Fringilla noctis*, L.† est le type, et qui contient deux au trois espèces semblables par la couleur si non par le bec. Ce nouveau genre qui par *P. portoricensis* indique le passage vers ceux à formidable bec nos conduit droit au genre *Spermophila*, Sw. Nous sommes ainsi bien aises de débarasser les vrais *Fringilliens* de ces innombrables espèces de prétendus Bouvreuils americains!

---

* *Camarhynchus* is, we believe, also found upon the continent of South America.

"C'est à un petit démembrement de ce grand genre que nous réservons le nom *Sporophilus*, Cabanis, resté sans emploi: son type est la *Pyrrhula nigra* du Brésil, espèce qui se rapproche le plus des Bouvreuils.

"Si le genre anormal *Psittirostra*, qui n'a rien de commun avec les Loxiens, est véritablement un Fringillide, ce dont nous doutons grandement, c'est ici que nous placerions son unique espèce des îles Sandwich.

"C'est avec moins d'hésitation que nous y rangeons le singulier genre *Paradoxornis*, GOULD (*Bathyrynchus*, ou *Heteromorpha*), et ses cinq espèces dont deux au moins montrent une forte analogie aux *Léiothriciens*, et même, ne fût ce que par les moeurs, aux Mésanges.

"Par son remarquable bec, le *Cardinalis sinuatus*, BP., qui à la vérité pourrait constituer un genre à part (*Pyrrhuloxia?*) que les teintes pourraient faire inclure parmi les Loxiens, rattache ici le genre *Cardinalis*, BP., dont la ptilose peu serrée ressemble aussi à celle du genre *Paradoxornis*, et qui comprend deux autres espèces certaines, outre quelque douteuses.

"Nous restreignons le genre *Guiraca* à deux Oiseaux parfaitement jetés dans le même moule, que l'on ne saurait ni désunir ni associer à d'autres. L'un est la belle *Loxia ludoviciana*, L., (*rosea*, WILS., *Fr. punicea*, GM.) des Etas-Unis: l'autre, la *Guiraca melanocephala*, SW., du Mexique, que l'on a placé sans raison dans le genre *Pitylus* et qui a reçu successivement les noms spécifiques de *guttata*, *maculata*, *xanthomascalis*, et *epopaea*.

---

* Characterized by Reichenbach under the title of *Chlorornis*.

† *Loxogilla* has been applied generically by M. Lesson (1831) to *F. noctis*, LINN.

"Nous y rattachons le nouveau genre *Cyanoloxia*, Bp., dont le type *Loxia cœrulea*, L., a été aussi considéré comme une *Guiraca*, mais à laquelle nous réunissons trois au quatre autres *Pityliens* bleus inextricablement confondus, et ballotés dans les genres *Loxia*, *Fringilla*, *Guiraca*, *Coccoborus*, *Pyrrhula*, et peut-être même *Tanagra*.

"C'est la *Loxia grossa*, L., qui restera le type du genre *Pitylus*, comme l'a en effet voulu Cuvier son fondateur, tandis que les trois espèces vertes, *cayennensis* (nommée *canadensis!* par la perpétuation d'une faute typographique), *episcopus*, Licht., et *atro-olivaceus*, Lafr., dont *Pitylus personatus*, Less., *P. poliogaster*, Dubus, et *P. flavo-cinereus*, Cassin, ne doivent être que des synonymes, constituent le genre *Caryothraustes*.

"Reichenbach a aussi l'intention de constituer le genre *Cissurus* pour la *Fringilla gnatho*, Licht., dont ne diffère ni le *P. atrichalybæus*, Jard., ni *l'erythrorhynchus*, Sw., ni *l'ardesiacus*, Sw., la femelle: mais il est impossible de séparer cette espèce de *Loxia grossa* qui ne s'en distingue que par sa gorge blanche. C'est encore à ces Pityliens que tient de près le genre *Periporphyrus*, Reichenb., contenant la *Loxia erythromelas*, Gm., de Cayenne, et la non moins brillante espèce voisine du Méxique nommée *Fringilla celæno* par Lichenstein, *Pitylus atropurpuratus* par Lafresnaye et, l'on pourra à peine le croire, *Pyranga! mexicana* par Lesson.

"Avec Cabanis nous limitons le nom de *Coccoborus* à quatre espèces assez semblables, telles que notre *Guiraca magnirostris* (qu'il ne font pas confondre avec celui de Swainson), le *Pitylus aureiventris*, Lafr., et le *chrysopeplus*, Vig. C'est par elles que nous terminons la série des Pityliens, car ce n'est pas seulement par leur gros bec, mais même par leurs couleurs qu'elles se rattachent aux *Hespériphones* et aux *Coccothraustes*, les premiers des Fringilliens.

"5. Les *Fringilliens*, type et centre de la Famille, sont comme nous l'avions déjà dit, de beaucoup les plus nombreux: et c'est par degrés encore plus insensibles qu'ils mènent au *Loxiens* dont traite notre ouvrage. Il est donc nécessaire de jeter un coup-d'œil plus approfondi sur cette sous-famille qui se lie plus intimément avec celle dont nous nous occupons. Les *Loxiens typiques* se fondent en effet pour ainsi dire avec les Bouvreuils, tandis que les *Loxiens montifringillacés*, dont deux espèces (constituant chacune un sous-genre) n'ont pas même de rouge, tiennent encore plus étroitement aux Pinsons: et que, sans leurs teintes rouges, les *Loxiens linotacés* (à la vérité boréales) ne pourraient guère être séparés des Serins, des Tarins et des Chardonnerets.

C'est par le genre *Mycerobas*, Cabanis, qu'en quittant les *Pytiliens* dont on faisait aussi des *Gros-becs*, nous commençons la série des **Fringilliens**. Ce genre toutefois ne se compose pour nous que du seul *Cocc. melanoxanthus*, Hodgs., au *fortirostris*, Lafr., à l'énorme bec, car les autres espèces Asiatiques se rattachent plutôt à notre second genre *Hesperiphona*, quoiqu'il ait pour type la *Fr. vespertina* de l'Amérique septentrionale, et puisque le prétendu *Mycerobas papa* des îles Bonin est pour nous le type d'un genre à part qui, quoique anormol parmis les Loxiens, n'a rien a faire avec les Fringilliens en question. Sans parler du prétendu *Guiraca abeillii*, Less., du Mexique, les quatres espèces Asiatiques intermédiaires entre *Mycerobas* et *Hesperiphona*, et toutes modelées sur le même type, quoiqu'elles se rapprochent de plus en plus de *Coccothraustes* suivant l'ordre où nous les nommons, sont : *H. icteroides* de l'Himalaya, la plus anciennement connue; l'occidental *C. speculigerus*, Brandt, presque Européen, et dans l'extrême Orient le *melanurus* de la Chine, et le *personatus* du Japon.

" Suit immédiatement dans le Système le *Coccothraustes*, Brisson, réduit à notre espèce d'Europe et à sa très légère variété du Japon.

" Nous avons aussi dû former un genre que nous appellons *Callacanthis* avec Reichenb., pour la réception de cette belle espèce de l'Asie centrale dont Gould, guidé par les couleurs et se souciant par trop peu du bec, avait fait un *Carduelis*, et dont il vient beaucoup plus raisonnablement de faire une *Fringilla* dans ses Birds of Asia. Outre qu'il s'est évidemment rapproché de la nature, il vaut toujours mieux laisser une espèce dans son ancien genre que de particulariser d'une manière fautive ou même douteuse.

" Nous ne connaissons que cinq espèces à laisser dans le genre *Fringilla* reformé ; les deux d'Europe (*Fr. cœlebs* et *Fr. montifringilla*) ; une de nord de l'Afrique (*Fr. spodiogenis*, Bp., *cœlebs* var. Malherbe) tout aussi typique, de sorte que les trois espèces ne diffèrent guère que par la couleur de leurs joues, grises, noires ou rousses ; et deux des îles Canaries, dont une encore normale (*Fringilla canariensis*, Vieill., ou *Fr. tintillon*, Webb et Bertholley) et l'autre (*Fr. tedia*, Webb) que l'on a réuni avec les Moineaux, mais qui n'en a ni les mœurs ni le bec ; et dont la femelle surtout rappelle la *Fr. cœlebs*. Son bec est seulement plus fort et beaucoup plus allongé. Il est impossible de ne pas conserver à ce petit genre si bien circonscrit le nom de *Fringilla*, L., quoique Cuvier l'ait dans un temps nommée *Cœlebs*, et que Boie en ait fait son genre *Struthus*. Depuis longtemps les Oiseleurs reconnaissent deux races dans l'espèce commun du Pinson qui sert en ce moment d'exercise à un GEOFFREY St. HILAIRE de la troisième génération. Puisse-t-il marcher sur les traces de son père et de son ayeul! neus ne saurions exprimer de voeu plus amical et en même temps plus digne d'être exaucé!

" Les Moineaux francs (*Pyrgita* CUV., mais mieux PASSER, BRISS., et de toute le monde) non moins que les vrais Pinsons, sont tous de l'ancien Continent; et les premiers même montrent, surtout dans leur mode de nidification, une grande analogie, je dirai presque affinité, avec les *Plocéides*. Nous connaissons plus de vingt espèces ou races de Moineaux francs qui auraient besoin d'une bonne Monographie, et d'études approfondies faites d'après le vivant et sur les croisements!

" Le genre *Petronia* suit le genre *Passer* avec lequel on le réunit souvent, mais que nous croyons tout autant rapproché des Verdiers: il ne compte que deux ou trois espèces fort voisines dont les nouvelles, par leur bec moins fort, se rattachent au nouveau genre *Xanthodina*, SUNDEVALL, qui porte comme lui une tache jaune sur la poitrine. Nous connaissons cinq espèces de ce groupe en Afrique et en Asie, dont quelques unes sont les *Gymnornis* du Major HODGSON. Quant au genre *Pyrrhulauda*, SMITH, ou *Coraphites*, Cabanis, qui a aussi quelque affinité avec les Moineaux, il appartient cependant à la Famille des Alouettes, comme le prouvent les couvertures de ses tarses.

" Nous soutenons notre genre *Chlorospiza*, le nom de *Ligurinus* rappellant par trop d'autres Fringilliens, tout en le limitant à quatre ou cinq espèces de l'ancien monde; les prétendus Verdiers de l'Amérique, malgré leur ressemblance de forme et de couleur, n'étant que des Spiziens dont nous avons constitué notre genre *Melanodera*. Nos espèces de ces véritables Verdiers sont la *Fr. incerta*, RISSO, que vous venons encore de revoir à Gènes vivante et parfaitement adulte, chez le Marquis CHARLES DURAZZO; le Verdier commun (*L. chloris*, L.), la novelle espèce si voisine, plus petite et plus jaune, de Syrie (*Fr. chlorotica*, EHRENB.), et les deux du Japon, *Fr. kawariba major* et *minor*, SCHLEGEL, dont la dernière nommé

Fr. chlorion par TEMMINCK, ne semble pas différer de la *Fr. sinica*, L. C'est après avoir désiré depuis bien des années de pouvoir examiner la dernière que nous venons enfin de la retrouver dans les Magasins du Muséum de Paris, envoyée de Macao par les Missionaires.

" C'est par le *Carduelis spinoides* de Vigors, du plateau des Indes, non de TEMMINCK du Japan qui ne diffère pas de notre *Chr. spinus*, dont le gros bec rappelle encore celui des Verdiers, que nous entrons dans le genre *Chrysomitris*, BOIE (*Spinus*, BREHM.). Cet oiseau qui n'a ni les formes ni les couleurs du Chardonneret ne saurait être distrait du joli groupe des Tarins dont nous connaissons dix-sept espèces. Quinze réparties dans toutes les parties du monde, moins l'Océanie (une d'Europe, deux d'Asie, et douze d'Amérique), sont non seulement typiques, mais souvent à peine différentes ; c'est à dire semblables au *Chr. spinus* si commun en Europe et qui s'étend par la Chine où il a reçu le nom de *Fr. sinensis*, GM., jusqu' au Japan où, quoiqu' on en puisse dire, l'espèce est la même : tandis que deux des Antilles, *Carduelis cucullatus*, SW., et FR., *cubæ*, GERVAIS (si tant est qu'elles diffèrent entre elles) s'éloignent des autres, par leurs couleurs surtout. La troisième espèce, d'Asie, est nouvelle et se trouve en Sibérie : c'est *Fr. pistacina*, EVERS., plus petite que *spinus*, d'un vert pistache plus roussâtre et marqué de blanchâtre sur les pennes des ailes et de la queue où l'espèce commune l'est de jaune : nous ne l'avons trouvée qu'au Musée de Berlin. Les Tarins verts d'Amérique sont—1. *Chr. stanleyi*, de la Californie supérieure, figuré par AUDUBON, dont le bec beaucoup plus forte que dans les suivants rappelle un peu celui du *spinoides*. 2. *Chrys. pinus* dont on ne connaît que la livrée sous laquelle il envahit du nord en grandes bandes les États-Unis où WILSON l'a fait connaître. 3. *Chr. macropterus*, DUBUS, du Mexique, espèce si semblable à la précédente, mais parfaitement distincte par ses ailes plus longues et plus amples à large miroir doré, et par ses grands pieds. 4. Le *Chr. atratus* que nous a fait connaître d'Orbigny, propre à l'Amérique méridionale, et dont le nom rappelle si bien le plumage noir, contrastant avec la belle couleur jaune du ventre, du double miroir et de la base des pennes alaires et caudales. 5. *Chr. mexicanus*, SW., ou *Fr. melanoxantha*, LICHT., figurée par AUDUBON sur sa planche 427 ; noir dessus, jaune en dessous : la base des rémiges et les rectrices latérales blanches. C'est a cette espèce essentiellement Méxicaine et qui est le *Ligurinus mexicanus niger* de Brisson, si non son *Ligurinus mexicanus* (le *Cacatototl* si non *l'Acatechichictli* d'Hernandes) que le nom spécifique de *mexicanus* doit être conservé; car l'oiseau auquel Gray voudrait exclusivement l'appliquer (*Emberiza* non pas *Fringilla mexicana*, L.,) n'est point un *Fringillien*, mais un *Spizien à tête jaune* capturé à bord d'un vaisseau! et celui d'Audubon figuré à la pl. 433-4-5, est une espèce nouvelle qu'il a depuis appelé *Chr. yarrellii*. 6. *Chrysom. magellanica* que Vieillot, a figuré le premier dans ses Oiseaux chanteurs et dont *l'icterica*, Licht., et le *campestris*, Spix, ne semblent pas différer, est tout aussi typique que les autres. Le genre *Sparagra* de Reichenbach repose sur un *Plocéide* pris pour cette espèce américaine. Sa tête est entièrement noire, et son bec plus robuste que dans notre Tarin. 7. *Chrysomit. notatus* dont nous devons la connaisance au Baron Dubus, excellente espèce quoiqu' établie sur un caractère exceptionnel, comme son auteur nous l'a lui même démontré. Elle est très semblable à la précédente, mais son bec est beaucoup plus long et plus effilé, ses couleurs sont plus vives; le noir de la gorge descendant plus bas, couvre la poitrine; le miroir de l'aile est fort grand et d'un beau jaune d'or qui ressort d'autant plus que les couvertures des ailes et les rémiges sont entièrement noires, étant privées des bordures jaunes que porte sur les couvertures et les tertiares le *Chr. magellanicus*. Sa patrie est le Mexique et il est plus que probable que c'est elle qui se montre parfois dans quelques parties des Etats-Unis, quoique les descriptions et les figures publièes dans ce pays soyent évidemment prises sur le véritable *magellanicus*. 8. *Chrys. psaltria* est le joli petit Fringillien que nous devons à Say qui l'a rapporté de l'expédition du Major Long aux montagnes rocheuses, que nous avons figuré dans notre Continuation à Wilson, et qui a depuis été retrouvé au Mexique. 9. *Chr. spinescens* se trouve au Musée de Berlin qui l'a reçu de St. Fé da Bogota: il est très semblable à notre Tarin, mais plus petit: le noir du sommet de la tête, des ailes et du bout de la queue est plus intense, et manque entièrement à la gorge, tout le dessous étant jaune, sens les stries ni le fond blanchâtre du ventre, comme dans notre espèce d'Europe. 10. Le *Chrysomitris marginalis*, Bp., ressemble encore plus, si c'est possible, au Tarin d'Europe, mais il est plus grand, a le noir à la gorge encore plus foncé, le front mais point les sourcils jaunes: les rectrices brunes depuis la base, et le bec beaucoup plus courte et robuste, presque de Serin. C'est lui qui se trouve indiqué comme var. δ. du *Fr. spinus* par GMELIN, mais non pas comme var. γ. (*novæboracensis*) que n'est autre que *C. tristis* en plumage d'hiver: il provient du Chili et se voit à Berlin et à Paris. 11. *Chrys. yarrellii*, AUDUB., que cet auteur avait d'abord appelé *Fr mexicana*, et qui se trouve aussi dans la partie occidentale de l'Union, ressemble au *Chr. tristis*, mais a les bandes des ailes d'un beau jaune, et non blanches comme lui. 12. Le joli *Chrysomitris tristis* enfin, ce véritable *Goldfinch* est, par ses habitudes surtout, intérmediare entre les deux genres *Chrysomitris* et *Carduelis*.

" Nous ne connaissons que trois véritables Chardonnerets, tous de l'ancien continent: notre commun, *l'orientalis* qui est en même temps la *Fr. subulata*, ILLIG, et le *caniceps*, VIG. de l'Himalaya.

" C'est ici que nous placerons, ne sachant où le mettre plus convenablement, le singulier petit genre *Hypoloxias*, LICHT. (*Loxops*, CABAN.) dont le mâle est rouge et la femelle verdâtre, qui rappelle les *Becs-croisés* et se lie peut-être au genre *Psittirostra!* C'est bien gratuitement qu'on en a faite une Linotte! . . . et que par une erreur inexplicable on l'a confondu avec *Linaria brevirostris!!*

" Deux petits genres intermédiares aux Serins doivent aussi trouver ici leur place: ce sont *Auripasser*, BP., et celui qu'avec le Dr. SCHIFF de Francfort nous apellerons *Poliospiza*. Le premier a pour type la *Fringilla lutea*, LICHT., à laquelle on doit associer, comme normale, la charmante espèce nouvelle d'Abyssinie *Fr. euchlora*, et l'on peut y placer comme espèce anormale la *Fringilla simplex*, LICHT., de Nubie (qu'il ne faut pas confondre avec la vrai Moineau de ce nom). Par son bec turgide et surtout par sa coloration, elle montre une grande affinité avec les *Erythrospiza*. Le second petit genre, remarquable par son plumage lâche et ses courtes ailes, ne renferme jusqu'à présent que la seule *Fr. tristriata* de RÜPPELL.

" Le Ciri (*Citrinella alpina*) toujours confondu avec le VENTURON (*Serinus meridionalis*) véritable SERIN, est pour moi le type du genre *Citrinella* appelé depuis *Dryospiza:* il est impossible d'en séparer la *Fr. citrinelloides* d'Abyssinie, et la *Loxia totta* SPARMANN, du Cap, représentée avec le bec trop fort par cet auteur, oubliée par GRAY dans la laborieuse liste de son magnifique *Genera of Birds*, et reproduite par LESSON sous un nom nouveau. Peut-être aussi faudra-t-il lui adjoindre quelques autres espéces Africaines intermédiares entre elles et les Serins, telles que *Fr. nigriceps, canicollis.*

" Et à propos des Serins fesons remarquer l'inconséquence de ceux qui, tout en admettant une foule de genres moins tranchées élèvent la voix contre celui si naturel de *Serinus* et placent son type si connu de tout le monde, le Serin des Canaries (*Fringilla canaria*, L., *Serinus canarius*, Bp.), dans le genre *Crithagra* sous la famille des Bouvreuils (*Pyrrhulinæ*), tandis qu'ils insistent avec raison sur l'impossibilité d'éloigner la *Serinus meridionalis* des véritables *Fringilliens:* séparant ainsi, pour les placer dans deux Familles différentes, deux oiseaux que le groupe le plus réduit ne peut manquer de comprendre! Ce seul fait suffirait pour condamner irrévocablement la Sous-famille des *Pyrrhuliens* qui est aussi artificielle que sont naturels les petits groupes biens composées tels que *Serinus*, *Chrysomitris*, etc. Nous proposons au reste d'appeler par ce nom de *Serinus* les nombreuses espèces de l'ancien continent, laissant le nom de *Crithagra* aux Américaines qui ont une certaine affinité avec les Spiziens et dont plusieurs sont encore plus jaunes que les Serins eux-mêmes, comme *Emberiza brasiliensis*, Gm., et *Fr. flaveola*, L.* Il en est aussi de vert grisâtre en dessus comme *Fr. luteiventris*, Meyen; et de presque tout gris comme *Fr. xanthorrhoa*, Bp., qui ne se trouve pas dans l'ouvrage de Gray, et manque dans presque tous les Musées.

" Le genre Serinus, principalement Africain, est encore un exemple éclatant du peu d'importance que l'on doit accorder à la forme et à la grosseur du bec. La (*Loxia sulphurata*, L.) en effet, malgré son formidable bec tout aussi gros que celui du *Coccothraustes* n'est qu'un véritable Serin (*Serinus sulphuratus*, Bp.), et nous trouvons toutes les dégradations par *S. butyraceus* et plus d'une douzaine d'autres espèces Africaines jusqu'à *Linaria gularis*, Smith, *Serinus striolatus*, Bp. (*Pyrrhula striolata*, Rüpp., *Carpodacus striolatus*, Gr.), qui montre en effet le bec d'un *Carpodacus* dont il a même toute l'apparence: mais ce n'est qu'un Serin à bec de grosseur moyenne, que Rüppell s'étonne de ne point voir prendre de rouge seulement à cause de l'idée preconçue que ce soit un Bouvreuil ou *Oiseau-rouge*, nonobstant sa tendance évidente à la couleur verte ! Parmi les vingt espèces qui nous sont connues, nous ne signalerons plus que les deux Asiatiques nouvelles et les deux d'Europe. Notre *Serinus syriacus*, recueilli par HEMPRICH à Bischerra ressemble au *Venturon*, mais il est un peu plus forte, de couleur plus claire et plus jaune, sur les ailes surtout : les pennes latérales de la queue sont blanchâtres sur leur moitié intérieure. Le *Serinus leucopygos*, ainsi nommé par le savant LICHENSTEIN dans le Musée de Berlin, vient aussi de l'Asie mineure : il est cendré, blanchâtre en dessous, avec des flammèches obscures, et le croupion blanchâtre sans taches. Peut-être n'est il pas adulte. Nous ne parlerons du *Fr. serinus*, L., auquel les noms specifiques de *flavescens*, *meridionalis*, *hortulanus*, et bien à tort *brumalis*, ont été imposés, que pour confirmer que le prétendu *Serinus islandicus* n'est qu'un exemplaire plus forte que l'on supposait venir d'Islande, comme Faber lui-même s'en est depuis convainçu. Les marchands au reste continuent à en fournir aux amateurs ! Nous terminons la série des Serins par le *Serinus pusillus* qui par sa tache d'or au front nous mène au genre *Catamblyrhynchus*, LAFR. (*Bœtamontia*, BP.), composé d'une seule espèce de l'Amérique du Sud (*Cat. diadema*,* LAFR. ou *B. capitauria*, BP.), qui nous mène droit aux Bouvreuils. Plusieurs espèces pourraient fort bien se trouver confondues sous le nom de *Fringilla pusilla*, vu que l'oiseau de PALLAS provenant du Caucase ou de l'Altaï, aurait, à en juger par la mauvaise figure de sa *Zoographia Rosso-asiatica*, les tarses beaucoup plus longs et plus grêles que les nombreux exemplaires (*Serinus aurifrons?*† BLYTH) que nous recevons depuis peu de l'Himalaya et qui ont aussi le jaune du front beaucoup plus vif, si non plus étendu.

---

* *Crithagra* was originally (1827) formed by Mr. Swainson, having *C. sulphurata* for the type, and it cannot now be changed at the will of any ornithologist to another group; besides the *F. flaveola*, Linn., has been generically characterized by Boié, in the Isis, so far back as 1826, under the name of *Sicalis*.

" Les véritables Bouvreuils se réduisent à six espèces en comptant même pour telles les deux races d'Europe qui ne diffèrent guère que par la taille, et la *Pyrrhula epauletta*, HODGSON, du Népal, dont on a formé le genre *Pyrrholeptes*. Les trois autres sont *Pyrrhula orientalis* de la Faune du Japan, plus petite que les nôtres et à dos et gorge rougeâtres ; *l'erythrocephala*, VIG., de l'Himalaya figurée par

---

* This bird will be found to be essentially *Tanagrine*, and to range not far from Euphonia.

† Emberiza? aurifrons. Blyth Journ. As. Soc. xvi. p. 476. Specimen in collection of H. E. Strickland, from Siberia, agrees with Blyth's description.

GOULD, dont tout le sommet de la tête et la nuque sont rouge dans le mâle et roux-jaunâtre dans la femelle ; *P. nepalensis* enfin, pareillement du Népal, est d'une plus grand taille, à tête jaune-olivâtre dans le mâle, brun-cendré chez la femelle, et se fait remarquer par sa queue longue et échanchrée.

" C'est pour former la sixième et dernière Sous-famille que nous réservons le nom de *Loxiens.* On a pu voir par la rapide énumération des genres et espèces des cinq premières que, nous dépouillant de toute idée préconçue et en vogue jusqu'à ce jour, nous la composons d'une manière toute différente de nos devanciers. En effet nous y groupons autour des Becs-croisés (*Loxia*), non seulement les Dur-becs (*Corythus*) qui en diffèrent à peine, et les genres *Uragus, Carpodacus, Erythrospiza,* démembrements du genre artificiel *Pyrrhula,* mais, outres quelques genres anormaux, les Linottes elles-mêmes et leur proches parents, les *Montifringilla,* qui, quoique intimément liés avec les *Erythrospiza* le semblent encore plus avec les véritables Pinsons, dont on a grand peine à les séparer. On a vu par contre que nous en avons exclu les véritables Bouvreuils pour les ranger parmi les Fringilliens, et les *Paradoxornis* ainsi que le singulier genre *Psittirostra* qui sont tout au plus des *Pityliens !* La teinte, bien plus que la couleur rouge est de rigueur pour nous faire admettre un *Fringillide* parmi les Loxiens, non que nous la considérions comme caractère essentiel, comme on s'est plu à le dire et à le répéter, mais parce que ce caractère en représente d'autres moins difficiles à saisir qu'à énumérer et qui rendent notre Sous-famille éminemment naturelle. Du reste la *Fringilla incerta* prend aussi une teinte orangée sur le front et n'est qu'un VERDIER (*Chlorospiza*), tandis que la *Fr. pusilla,* PALLAS, à front tout à fait orange, est un véritable Serin (*Serinus*). Les Cardineaux bien plus rouges que presque tous nos *Loxiens* sont des *Pityliens :* d'autres Fringillides marqués de rouge, les Cardinaux dominicains (*Paroaria*), sont des *Spiziens* ; les flamboyants *Pyrangas* enfin et les *Ramphocèles,* des TANAGRIDES !

" C'est par les *Uragus,* dont nous admettons deux espèces ou races principales (*U. sibiricus* et *sanguinolentus,* que nous commençons la série des *Loxiens,* tout en reconnaissant que ce petit genre assez bien caracterisé lie les *Corythus* avec les *Carpodacus ;* et que dans cette manière de dérouler la série, le genre *Corythus* dont le bec affecte la forme de celui du Bouvreuil et se fait remarquer par sa largeur, devrait suivre, non précéder les *Becs-croisés.* Les deux espèces en effet qui le composent, et qui ont donné lieu à l'établissement de deux genres, celle de l'Himalaya *Corythus subhaemachalanus*, HODGSON, se rapproche presque autant des *Carpodacus* que la typique des *Becs-croisés*. Cette dernière se retrouve dans le nord des deux hémisphères, et l'on serait tenté de considérer les individus d'Amérique comme appartenant à une espèce distincte pour laquelle les noms de *canadensis, americana, splendens*, ont déja été employés. Mais les exemplaires du Kamtschatka que nous avons examinés tout récem ment semblent trancher la question en sens contraire, puisqu'ils nous offrent des teintes tout aussi brillantes que ceux d'Amérique. La *Loxia flamengo*, SPARMANN, n'en est qu'une variété albine.

" Sept *Becs-croisés*, en y comptant la *Loxia rubrifasciata*, seront appréciés par nos lecteurs. Malgré son très gros bec différemment conformé et sa couleur écarlate de *Pyranga* et de *Cardinal* plutôt qu'à teintes de *Loxien*, l'excellent genre *Hamatospiza*, BLYTH, ne peut-être éloigné des *Becs-croisés* et des *Corythus*, surtout à cause de sa femelle verte à croupion jaune. Sa seule espèce, le *Sipahi* D'HODGSON, que l'on a voulu rapporter, je ne sais trop pourquoi, à *Loxia bætanensis*, LATHAM, et qui pourrait aussi bien être rapportée à *Loxia indica*, GM., est certainement *Loxia fulgens*, LAFR., comme nous venons de la vérifier d'après son type. Il serait intéressant de pouvoir identifier également la *Loxia carlsoni*, DAUDIN, basée sur la figure de SPARRMANN.*

" En attendant que ses mœurs et ses affinités soient mieux connues, c'est ici que l'on doit intercaler, quoiqu'il brise évidemment la sérié encore plus que le précédent, notre nouveau genre *Chaunoproctus* qui a pour type le *Fringilla papa*, KITTLITZ, ou *ferreirostris* VIG., placé à tort parmi les *Coccothraustes* et réuni plus malheureusement encore avec *Mycerobas*. Nous empruntons son nom générique à Aristophane, l'appliquant après deux mille ans, à une époque où il semble crée pour notre papal oiseau.

" Le genre *Carpodacus* si peu compris des Ornithologistes avant que BOIE n'indiqua son affinité avec les Linottes et que nous le constituions sous le nom *Erythrospiza*, offre lui même plusieurs petits groupes dont quelques uns ont été élevés au rang de genres, et qui pis est, disséminés dans différents groupes suivant la forme et la grosseur du bec des espèces.

---

* In the collection of H. E. Strickland there is a Crossbill distinct from any of those above enumerated, and differing in all its proportions from *L. americana*.

L. mexicana, STRICK.—colours nearly as in *L. americana*; entire length, 6.2.—of wing, 3.9.—of bill to base, 8.—depth of bill at base, 4.—Hab. near the city of Mexico.

Le plus grand des Loxiens qui nous soit connu *L. rubicilla*, ou *C. caucasicus;* le *C. rhodochlamys* de la Sibérie occidentale ; notre *Carp. sophia* de l'Himalaya ; et même le *Passer roseus*, de PALLAS, forment le petit groupe des *Rubicilla*. Leur bec quoique fort n'est nullement renflé, et ressemble plutôt à celui du Pinsons ou du moins du Verdier, qu'à celui des Bouvreuils.

" *Fringilla rhodopepla*, VIG., *Carpodacus thura*, BP., et *Fr. rhodocroa*, VIG., par leurs ailes courtes et leurs becs de Pinson constituent le sous-genre *Propasser*, HODGS., propre aux régions Himalayennes.

" Par ses couleurs sombres, ses pieds grêles, ses ailes longues, et son petit bec comprimé, encore plus grêle et droit, caractères qui l'ont fait ranger parmi les Linottes, le *Carpodacus saturatus* mérite dêtre isolé comme *Procarduelis*, HODGSON. Cabanis a même été jusqu'à l'éloigner des autres espèces pour le rapprocher des vrais Pinsons comme type de son genre *Pyrrha*.

" Notre *Carpodacus puniceus* (*rubeculoides*, HODGS.), à bec allongé, à teintes différemment distribués, le rouge de sa gorge etant plus cramoisi, mieux défini et plus restreint, a aussi donné lieu au genre *Pyrrhospiza*, BLYTH., ou *Propyrrhula*, HODGS. Mais sa femelle est tout-à-fait semblable à celle de *C. rhodopepla:* l'unique individu qui se voit au Musée de Leyde offre une singularité dans le bec dont la mandibule inférieure est coupée par une carnène transversale à la moitié de sa hauteur ! Ces femelles noirâtres et grivelées dont le plumage contraste tellement avec la pâle livrée d'un gris uniforme et presque isabelle des espèces plus méridionales, rappellent un peu les Étourneaux.

" Quoiqu'il en soit, c'est aux *Pyrrhulinotæ*, D'HODGSON, qu'il convient de conserver plus particulièrement le nom de *Carpodacus*. Cette petite division comprend le *Carpodacus purpureus*, des parties septentrionales et orientales de l'Amérique du Nord, que son bec de Pinson et sa couleur rouge à la fois plus rose et plus sombre, fait parfaitement reconnaître ; le *frontalis* des parties occidentales et méridionales, le *rhodocalpus*, CABANIS, du Mexique, ne nous en paraissent que le jeune. Son bec es court et bombé, son rouge cramoisi est mieux circonscrit, son ventre toujours strié. *L'Erythrina* type du genre, sans parler de notre Europe où elle s'avance plus ou moins de l'Orient, se retrouve depuis la Perse où elle se montre avec des teintes plus pâles jusqu'au Kamtschatka où elle les a plus vives et d'un rouge qui ne tire ni au rose comme en Perse, ni au cromoisi comme dans le Nord de l'Europe. Elle est très commune dans l'Inde où elle a reçu plusieurs noms, parmi lesquels il faut ajouter à ceux régistrés dans le corps de l'ouvrage celui de *rubriceps*, Cuvier, que nous venons de vérifier sur son type dans les magazins du Jardin des plantes. Encore plus pâle que les exemplaires persans de la précédente s'offre à nous comme dernière espèce la *Fringilla synaitica*, Licht., de l'Arabie, dont la femelle est même de couleur isabelle. Par ses teintes donc cet oiseau à couleur du désert fait le passage au genre *Erythrospiza*, mais c'est le seul trait qu'il a en commun avec ce petit groupe méridional, car pour le bec et pour la forme des ailes et même par la disposition de la teinte rose, cette espèce du sud de l'Asie se rattache à celles du Nord des deux continents.

" Le genre *Erythrospiza* comme nous l'avons restreint, par ses ailes longues et aiguës se montre intermédiare aux *Carpodaques* et aux *Montifringilles*. Nous en connaisons trois espèces, *l'obsoleta*, la *githaginea* et la *phœnicoptera*. Leur bec plutôt de Bouvreuil a une forme toute particulière, quoique plus au moins fort, et leurs couleurs se retrouvent aussi les mêmes, bien que plus ou moins vives. *L'E. phœnicoptera* qui est en même temps la *Pyrrhula rhodoptera* de Licht., et la *Fringilla sanguinea* de Gould, se trouve en Syrie et en Perse, et se fait de suite reconnaître à sa grande taille et à ses belles ailes à pennes élégamment lisérées de rose. *L'E. githaginea* ou Trompette de l'ìsle de Malte n'en est qu'une pâle miniature; il n'est pas sûr que le nom de *payrœudœui* qui lui fut donné dans le grand ouvrage de l'Expédition d'Egypte ne doive avoir la preférénce; tandis que sa nature essentiellement méridionale nous fait douter de l'identité de la prétendue *githaginea* de Sibérie signalée par Brandt avec notre espèce.

" En récapitulant et fesant une Revue générale de tous ces Oiseaux teints de rouge l'on parvient à les reconnaître rien qu'à la différente nuance des plumes de leurs dos! En effet sans parler de *Corythus subhœmachalamus* qui les a couleur de brique, nous les voyons dans *Carp. rubicilla* d'un gris de cannelle: dans *rhodochlamys* rosecendrées; *sophia* a ses plumes sombres entourées de rose et de gris: le plumage de *C. roseus* est teint de rose; celui de *rhodopepla* de pourpre ; de *thura* d'olivâtre ; celui de *rhodocroa* de bai-roux : dans *saturata* il est noirâtre ; dans *punicea* fuligineux ; *C. frontalis*, qui offre le rouge le plus cramoisi, a cependant le dos gris : *erythrina* l'a brun : *purpurea* mélangé de rougeâtre et de brun ; *synaitica* de rose-nankin : *Erythrospiza phœnicoptera* de jaune ; *githaginea* de gris-brun de cendre très clair ; *obsoleta* de gris isabelle.*

" Les Pinsons de neige beaucoup plus rapprochés que les précédents des Fringilliens auxquels ils tiennent par les vrais Pinsons, encore plus que ceux-là par les Bouvreuils, forment trois sous-genres dont les deux derniers n'ont qu'une espèce chacun. Le premier ou *Leucosticte*, SWAINSON, qui avait reconnu sa parenté avec les Linottes tient encore du moins comme celles-ci aux *Erythrospiza* par quelques bordures roses, et compte cinq espèces : le *tephrocotis* de l'Amérique boréale, et les quatre espèces plus ou moins confondues, sous le nom de *Passer arctous*, en partie débrouillées par BRANDT qui a appliqué successivement à deux le nom de *Fr. gebleri* avant d'avoir bien étudié leurs changements de plumage et de coloration du bec ! et dont la plus grand est à la fois *Linaria griseinucha*, BRANDT, *Leucosticte griseigenys*, GOULD, et *Montifringilla pustulata*, CABANIS.

" Le second genre *Fringalauda*, HODGS., nous montre une analogie avec les Moineaux du moins par le plumage, et se rapproche comme son nom l'indique, non seulement des Fringilliens, mais des véritables Pinsons : l'on ne connait que la seule espèce, *Fr. nemoricola*, de l'Himalaya, qui émigre par grandes bandes comme ces Oiseaux.

" Le genre *Montifringilla* propre, établi pour la *Fr. nivalis* est plutôt un Fringillien qu'un Loxien ; étant aux Pinsons ce que *Plectrophanes* est aux *Bruants*, mais il ne peut être éloigné des Linottes, des Erythrospiza et surtout des groupes précédents.

" Nous terminons la Famille par les deux genres de Linottes, *Linota*, BP., et *Acanthis*, BREHM, restreint, leur appliquant ces noms plutôt que ceux *Cannabina* et *Linaria* qui appartiennent à la Botanique.† Ils tiennent aux Serins, aux Tarins et aux Chardonnerets, comme les *Montifringillæ* aux Pinsons, les vrais Loxiens et la première Section des Loxiens aux Bouvreuils. Parmi les premières ou véritables Linottes à bec court, plutôt fort, et à narines découvertes, nous énumérons la *Linota cannabina* si commune par toute l'Europe, dont la *L. fringillirostris*, BP., de l'Inde diffère à peine par son bec de Pinson et par ses teintes plus douces mais plus vives ; et comme troisième espèce la *L. montium* que quelques-uns veulent être la *Fr. flavirostris* de LINNE. Ce nom est trop incertain pour pouvoir le lui conserver : BREHM l'a transporté à un Sizerin ; et nous l'avons trouvé appliqué dans le Musée de Paris, peut-être justement, à la *Montifringilla arctoa* en hiver, lorsqu' en effet elle a le bec jaune. Quant à la *Linota brevirostris*, GOULD, de notre *Liste comparative des Oiseaux d'Europe et d'Amérique*, c'est avec l'Ornithologiste anglais que nous avions decidé en 1837 d'appeler ainsi une Linotte de la Perse occidentale qu'il s'était reservé de décrire, mais que nous n'avons pu retrouver ni dans ses écrits, ni dans ses collections. Au reste les Linottes de ces contrées ont en effet le bec plus court et les teintes plus claires, se montrant intermédiares à la *cannabina* et à la *fringillirostris*, comme elles le sont géographiquement.

---

* Plate 22, *Carp. rhodopeplus*, and Pl. 23, *Carp. thura*, are one species — Pl. 24, *Carp. sophia* ♂ and Pl. 25, *Carp. rhodochlamys* ♀ are ♂ and ♀ of same species.

† We cannot agree to this separation, the forms are essentially the same.

" Le genre *Acanthis*, BREHM, contient la Sizerins à bec droit et aigu comme celui des Tarins et des Chardonnerets, mais toujours plus courte, à narines cachées par de petites plumes rigides qui s'avancent sur le milieu du bec. Plusieurs espèces, races, ou variétés existent, bien difficiles à fixer parmi les nombreux individus sur lesquels on parvient aisément à établir des espèces nominales en prenant les types aux extrémités de la série et choisissant les nains et les géants de chacune, comme a fait BREHM. Nous n'en signalerons pas moins.

" 1. *Acanthis rufescens*, *Fringilla linaria*, ou *Linaria rufescens*, VIEILL., *flavirostris* de BREHM.

" 2. *Acanthis linaria* ou *Linaria borealis*, VIEILL.

" 3. La grosse *Acanthis hollbölli*, BREHM, à bec puissant.

" C'est à ces mêmes espèces ou races que se rapportent les variétés *alnorum* et *betulorum* indiquées par SUNDEVALL comme ayant, l'une le bec fort couvert de plumes simplement à la base, avec le noir de la gorge plus étendu et les freins noirs ; l'autre comme ayant le bec petit, couvert de plumes au delà de la moitié, avec le noir de la gorge restreint, et les freins roussâtres.

" 4. *Linaria canescens*, GOULD (*borealis*, TEMM., *hornemanni*, HOLLBÖLL) du Groënland, plus facile à distinguer que les autres par sa longue queue, et son croupion blanc."

SYNOPSIS

OF THE

TANAGRINE GENUS *CALLISTE*,

WITH DESCRIPTIONS OF NEW SPECIES.

BY PHILIP LUTLEY SCLATER, B.A.

THE Prince Canino, in a paper in the *Comptes Rendus de l'Académie des Sciences*, for January 20, 1851, has divided this genus into several others, and M. Reichenbach forms two or more of it. But some of the names proposed cannot be used, having been previously employed in different senses; and I am unwilling to establish new ones in their places, seeing, in the first place, that Ornithology is already overburthened with the multitude of new genera, and secondly, because there appears absolutely no difference of structure in the forty-eight birds hereafter named, sufficient to warrant generic separation. They, however, divide themselves naturally into groups, to which I have given names, not as *genera* or *subgenera*, but merely for the sake of greater convenience of arrangement.

These are as follows:—

Sectio	A	*Callistæ tataones*	2	species	48
	B	*Callistæ typicæ*	8	...	
	C	*Callistæ punctigeræ*	6	...	
	D	*Callistæ procnopides*	13	...	
	E	*Callistæ flavæ*	6	...	
	F	*Callistæ lampræ*	6	...	
	G	*Callistæ gyrolæ*	3	...	
	H	*Callistæ cæruleæ*	4	...	

For those who use minor subdivisions, the genera embraced in *Calliste*, as here considered, will be

Tatao, Bp. (1851) = *Aglaia* (Sw.) Reich.
T. paradisea, Sw.; *Tanagra tatao*, Linn. Sp. Typ.
Calliste, Boié, 1826 = *Calospiza*, G. R. Gray (1840.)
C. tricolor (Gm.) Sp. Typ.
Procnopis, Cab. (1844.)
P. atro-cærulea, Cab. Sp. Typ.
————— (?) *Calliste*, Bp. (1851.)
—(?) *cayana* — *Tan. cayana*, Linn. Sp. Typ.
Gyrola, Bp. (1851.)
G. chrysoptera, Sw.; *T. gyrola*, Linn. Sp. Typ.
————— (?) *Callospiza* (Bp.), 1851.
— (?) *brasiliensis* (Linn.) = *Call. barbadensis*, Bp. Sp. Typ.

A.—CALLISTÆ TATAONES.

1. CALLISTE TATAO (LINN.)

Tanagra tatao, *Linn.* Syst. Nat. i. p. 315. —— **Aglaia paradisea**, *Sw.* Class. Birds, ii. p. 286. —— **Calliste tatao**, *Gray's* Gen. p. 366, No. 13.

♂ Suprà crissoque atra; vertice lateribusque capitis viridissimis; dorso postico flavissimo, rubro notato; subtùs humerisque viridè cæruleis, gutture purpureo.

♀ Mari similis sed coloribus minùs vividis.

Junr. dorso postico toto flavo, gutture humerisque vix purpureis.

Habitat, Cayenne; Demerara (Rich. Schomburgk); Brazil, near Rio de Janeiro (D'Orbigny)? Anolaima, New Granada?

Figured, Desm., *Tan.*, pl. 1. ♂. Edwards, pl. 349; Pl. Enl. 127, fig. 27; fig. 1 (fig. pessima — tail supplied from some other bird) Kitt. Kupf. Vog. pl. 31, fig. 3. Hayes, Osterly Park, p. 32.

The Anolaima specimens differ from the Cayenne — *first*, in being larger, the wing being $\dot{3}.\ddot{\tfrac{1}{3}}$ instead of $\dot{2}.\ddot{7}$; *secondly*, in the green of the head descending half way down the nape, while in Cayenne specimens it only reaches to the top of the crown. They have also less purple on the breast, and a greater amount of blue on the lesser wing-coverts. Should they prove distinct, which I think not unlikely, there being no other other *Calliste* common to Cayenne and New Granada, I propose to call the New Granadian bird *Calliste cœlicolor.*

2. CALLISTE YENI (D'ORB. AND LAFR.)

Aglaia chilensis, *Vigors*, Proc. Zool. Soc. 1832, p. 3.——Aglaia yeni, *D'Orb.* and *Lafr.* Mag. de Zool. 1837, p. 31.——Calliste yeni, *Bp.* Consp. Av. p. 234.

♂ Similis *C. tatao*, sed dorso postico ruberrimo.

Habitat, Yungas and Yuracares, Bolivia (D'Orb.), Eastern Peru (Tsch.), Rio Negro (Verraux).

Figured, D'Orb. Voy. Am. m. Ois. pl. 24, fig. 2.; Jardine and Selby, Illust. of Orn., N.S. pl. 26.

B.—CALLISTÆ TYPICÆ.

3. CALLISTE TRICOLOR (GM.)

Tanagra tricolor, *Gm.* Syst. Nat. i. p. 891.——Tanagra tatao, *Pr. Max.* Beit. zur. Nat. iii. p. 459.——Calliste tricolor, *Gray's* Gen. p. 366, No. 1.

♂ Subtùs capiteque cærulea; cervice remigumque marginibus externis cum ventre imo viridissimis; fronte, gulâ, mento, dorsoque medio atris; dorso postico flammeo; humeris purpureis.

Long alæ, 2.6.

♀ Coloribus obscurioribus; dorso postico flavo, nec flammeo.

Habitat, Brazil, Rio de Janeiro, Cabo Frio, and Guira-pina. (Pr. Max.); Rio de la Plata.

Figured, Desm. Tan. pl. 3 ♂; Pl. Col. pl. 215, fig. 1 ♀; Pl. Enl. 33, fig. 1; Kitt. Kupf. Vog. pl. 31, fig. 1.

4. CALLISTE FESTIVA (SHAW.)

Tanagra tricolor, Var. β, *Gm.* Syst. Nat. i. p. 392.——Tanagra festiva, *Shaw*, Nat. Misc. pl. 537.——Tanagra tricolor, ♀ *Desm.* Tan. pl. 4.——Tanagra cyanocephala, *Vieill.* Nov. Dict. d'H. N. xxxii. p. 425; Enc. Method. N. xxvi. p. 780.——Tanagra rubricollis (*Temm.*), *Max.* Beit. zur Nat. iii. p. 456.——Tanagra trichroa, *Licht.* Verz. der Doubl. p. 30.——Calliste festiva, *Gray's* Gen. p. 366, No. 2.

♂ Subtùs, dorso postico, remigibusque externè viridibus; summo capite gulâque purpureis; cervice omninò rubrâ; fronte, mento, dorso medio humerisque atris, his aurantio marginatis.

Long. alæ, 2̇.5̈.

♀ Obscurior, dorso medio viridi, nigricante marginato.

Habitat, Brazil, Rio de Janeiro, Guira-pina (Pr. Max.)

Figured, Desm. Tan. pl. 4 ♂; Pl. Enl. 33, fig. 2 ♂; Pl. Col. 215, fig. 2 ♀; Nat. Misc. pl. 537; Swains. Orn. Draw. pl. 5 ♂; Kitt. Kupf. Vog. pl. 31, fig. 2; Donov. Nat. Rep. pl. 23.

5. CALLISTE FASTUOSA (Lesson).

Tanagra fastuosa, *Less.* Cent. Zool. p. 184.—— **Calliste fastuosa**, *Gray's* Gen. p. 366, No. 20.

♂ Fronte pectore summo dorso medio que superiore atris; capite et vitta circa summam cervicem pulchre cæruleo-viridibus; tectricibus alarum minoribus thalassino-viridibus; uropygio secondariorumque marginibus externis aurantiis; remigibus rectricibusque nigris purpureo marginatis; subtùs purpurea, ventre summo dilutior; rostro pedibusque nigris. Long. alæ, 2̇.6̈.

Habitat, Brazil (Lesson).

The only examples I have ever seen of this species, are in the British Museum, labelled (1839) 12, 18, 26.

Figured, Lesson's Cent. Zool. pl. 58.

6. CALLISTE CYANOVENTRIS (Vieill.)

(1819) **Tanagra cyanoventris**, *Vieill.* Nov. Dict. d'H. N. xxxii. p. 426.—— (1820) **Tanagra elegans**, *Pr. Max.* Reise n. Bras. i. p. 187.—— **Tanagra citrinella**, *Temm.* Pl. Col. 42, fig. 2.

♂ Suprà aurea, dorso medio nigro striata; remigibus rectricibusque externè viridibus; fronte gulâque nigris, subtus cyanea.

Long. alæ, 2̇.7̈.

♀ Coloribus minus vividis.

Habitat, Brazil, Espirito Santo (Pr. Max.)

Figured, Pl. Col. 42, fig. 2 ♂; Sw. Orn. Draw. pl. 6 ♂.

7. CALLISTE AURULENTA (Lafr.)

♂ **Tanagra (Aglaia) aurulenta**, *Lafr.* Rev. Zool. 1843, p. 290.—— **Callospiza pulchra**, *Tschudi*, Wiegm. Arch. 1844, p. 285.—— **Calliste aurulenta**, *Gray's* Gen. App. p. 17.

♂ Aureo-flavissima, dorso medio nigro-maculata; fronte, auribus, rectricibus, remigibusque atris; harum secondariis tectricibusque aureo-viridi marginatis; subtus aureo-castanea.

Long. alæ, 3.0.

♀ Mari similis, sed subtus flavior.

Habitat, New Granada, Santa Fé de Bogota.

Figured, Tschudi's Faun. Per. pl. 18, fig. 2.

8. CALLISTE ARTHUSI (Lesson).

Tanagra arthus, *Less.* Illus. Zool. pl. 9.——**Calliste arthus**, *Bp.* Consp. Av. p. 235.

♂ C. aurulentæ, simillima, sed subtùs brunneo tincta; gulâ, sicut caput suprà, aureo-flavâ; abdomineque medio citrino-flavo.

Habitat Venezuela, Curiana near Cariaco (Dyson).

Figured, Lesson, Ill. Zool. pl. 9.

M. Lesson states this bird to be from Mexico, but the skins I have seen have been Venezuelan; and Mr. Dyson informs me, he found it on the estate of Curiana, near Cariaco, 2000 feet above the sea.

9. CALLISTE ICTEROCEPHALA (Bp.)

Plate LXX. Fig. 1.

Calliste icterocephala, *Bp.* Compt. Rend. de l'Ac. Sc. Par. 1851, p. 76.

♂ Suprà subtùsque flavissima; dorso summo alarumque tectricibus nigro striatis; pennis caudâque nigris, viridi limbatis; gutture et circulo circùm collum argenteis; rostro pedibusque nigris.

Habitat, Ecuador, Punta Playa (Bourcier).

This beautiful species, which is figured pl. lxx., seems to come nearest to *Calliste aurulenta*, though the Prince Canino compares it with *Calliste zanthocephala* (Tsch.) It may be distinguished from all other species of the genus by the peculiar bluish silver-like colour of the throat, which is continued round the back of the neck, and forms a complete collar. M. Bourcier found this species in the valley of Punta Playa, south of Quito. The specimen figured is the property of Mr. Edward Wilson—one other is in the Parisian National Collection.

10. CALLISTE THORACICA (TEMM.)

Tanagra thoracica, *Temm.* Pl. Col. pl. 42, fig. 1.——**Calliste thoracica,** *Gray's* Gen. p. 366, No. 4.

♂ Suprà infràque lætè viridis, suprà nigro striata; vertice orbitisque cyaneis; fronte et maculâ gulari atris; pectore, tectricibus alarum minoribus mentoque aurantiis; abdomine medio crissoque flavescentibus.

Long. alæ, 2̇.8̈.

♀ Coloribus minùs vividis, maculâ thoracicâ minus atrâ.

Habitat, Brazil (Temminck); Rio de Janeiro.

Figured Pl. Col. 42, fig. 1.

C.—CALLISTÆ PUNCTIGERÆ.

11. CALLISTE SCHRANKI (SPIX.)

Tanagra schranki, *Spix.* Av. Bras. vol. ii. p. 38.——**Aglaia melanotis,** *Sw.* Av. in Men. p. 355.——**Calliste schranki,** *Gray's* Gen. p. 366, No. 17.

♂ Viridis, suprà nigro striata; fronte et regione opthalmicâ atris; vertice aurulentâ; uropygio et corpore medio subtùs flavis.

Long. alæ, 2̇.7̈½.

♀ Coloribus minùs vividis.

Habitat, Yuracares, Bolivia (D'Orb.); Eastern Peru (Tsch.); Rio Negro (Verraux.)

Figured Spix. pl. 51, vol. ii.; D'Orb. Voy. l'Am. m. pl. 24, fig. 1.

12. CALLISTE CHRYSOPHRYS, SCLATER.

? **Callospiza punctata,** *Tschudi,* Wiegm. Arch. 1844, p. 286.——? **Calliste guttulata,** *Bp.* Compt. Rend. Ac. Sc. Par. 1851, p. 76.——**Calliste chrysophrys,** *Sclater,* Jard. Orn. Cont. 1851, pt. i. pl. lxix. fig. 2.

♂ Suprà viridis, nisi in uropygio nigro maculata; infrà albida præcipùe in pectore nigro punctata; fronte orbitisque aureo-flavis.

Long. alæ, 2̇.8̈.

Habitat, Venezuela (Dyson); Trinidad, New Granada; Santa Fé de Bogota and Anolaima.

Figured, Orn. Cont. pl. lxix. fig. 2.

I am still uncertain whether the Prince Canino's species is identical with mine. His description was taken from a single specimen

brought by M. Bourcier from the valley of Mindos, north-west of Quito, and placed by him in the Museum of the Jardin des Plantes.

13. CALLISTE PUNCTATA (Linn.)

Tanagra punctata, *Linn.* Syst. Nat. i. p. 316.—— Calliste punctata, *Gray's* Gen. p. 366, No. 12.

♂ Similis C. chrysophryi sed minor, orbitis flavis carens, punctis minoribus.

Long. alæ, 2̇.5̈.

♀ Minor, punctis pænè obsoletis.

Long. alæ, 2̇.3̈.

Habitat, Cayenne and Guiana.

Figured Edward's pl. 262; Pl. Enl. 133, fig. 1; Desm. Tan. pl. 8 ♂, pl. 9 ♀.

14. CALLISTE RUFIGULA (Bp.)

Tanagrella rufigula, *Bp.* Compt. Ren. Ac. Sc. Par. Jan. 20, 1851.

Suprà nigra; interscapuliis alisque virescente marginatis, uropygio virescente immaculato; subtùs gulâ crissoque rufis; pectore lateribusque virescentibus nigro punctatis; abdomine medio albido.

Habitat, Calacali, north of Quito, Ecuador, Bourcier.

Figura nulla!

The Prince Canino considers this a *Tanagrella*, but it appears to me to form one of the *Callistæ punctatæ*. In form and general style of colouring it approaches very near the last species. Indeed, the under surfaces of the two birds present an entirely similar appearance, with the exception of the rufous throat and crissum of *C. rufigula;* and although in the plumage above the upper half of *C. rufigula* is clouded over with black, the feathers are still minutely bordered with green as in *C. punctata*.

15. CALLISTE XANTHOGASTRA, Sclater.

Calliste xanthogastra, *Sclater,* Jard. Orn. Cont. 1851, part i.

C. similis C. punctata; sed minor, rostro minore, ventre flavo.

Long. alæ, 2̇.4̈½.

Habitat, Rio Negro (Verraux, No. 8622.)
Figura nulla!

16. CALLISTE VIRESCENS, Sclater.

Calliste virescens, *Sclater*, Jard. Orn. Cont. 1851, part i.

Supra infràque herbaceo-virescens; punctis paucis minutis in capite et pectore nigris; alis caudâque nigris cærulescente limbatis; ventre medio crissoque flavescentibus.

Long. alæ, 2̇.2̈½.

Habitat, Cayenne.

Figured, Jard. Orn. Cont. 1851, part i. pl. lxix fig. 1.

Since I described this species, I have obtained another specimen, apparently more adult, which however only differs from the one figured in the absence of the bluish band between the wings.

D.—CALLISTÆ PROCNOPIDES.

17. CALLISTE NIGROVIRIDIS (Lafr.)

Tanagra nigroviridis, *Lafr.* Rev. Zool. 1843, p. 69. —— Calliste nigroviridis *Gray's* Gen. p. 366. No. 23.

♂ Atra; corporis subtùs, capitis, cervicis, uropygiique plumis cyaneo terminatis; alis caudâque nigris cæruleo limbatis.

Long. alæ, 3̇.0̈.

♀. Minor, coloribus minùs splendentibus.

Habitat, Venezuela (Dyson); New Granada, Santa Fé de Bogota; Calacali, Ecuador (Bourcier).

Figured, Mag. de Zool. 1843, pl. 43.

Mr. Dyson, who has kindly furnished me with some localities of Tanagers, observed by himself in South America, informs me, that he found this species in company with *Calliste chrysophrys* and *atricapilla* (Lafr.), near La Colonia di Tovar, in the province of Caraccas, 8000 feet above the sea. It is common in collections from Bogota. The Prince Canino says, in describing this species as brought from Ecuador by M. Bourcier, '*Pectore nigerrimo.*' This does not agree with the true *C. nigroviridis*, which has the breast feathers pointed with cyanean blue; so if the description is right, the species is probably different.

18. CALLISTE THALASSINA (STRICKLAND).

Calliste thalassina, *Strickland*, Ann. Nat. Hist. xiii. 1844, p. 419. —— Aglaia wilsoni, *Lafr.* Revue Zoolog. 1847, p. 71.

Capite gulâque cyaneis; regione auriculari cum marginibus alarum thalassinis; pectore dorsoque summo atris; dorso postico lateribusque ventris lætè cæruleis; abdomine medio crissoque albis.

Long. alæ, $\dot{2}.\ddot{7}$.

Habitat, Guaunco, Peru (Lafr.); Rio Negro (Verraux, No. 8616.)

Figured, Icon. Orn. pl. 56, fig. 2. My specimen seems to be New Granadian.

19. CALLISTE CYANOCOLLIS (D'ORB. and LAFR.)

(1837) Aglaia cyanicollis, *D'Orb.* and *Lafr.* Mag. de Zool. 1837, p. 33. —— (1838) Aglaia cæruleocephala, *Sw.* An. in Men. p. 356.

Atra; capite toto, gulâ et remigibus externè cæruleis; dorso postico, alarumque tectricibus, vividè aureo-viridibus.

Long. alæ, $\dot{2}.\ddot{6}\frac{1}{2}$.

Habitat, Yuracares, Bolivia (D'Orb.); Eastern Peru (Tschudi); Anolaima, New Granada.

Figured, D'Orb. Voy. l'Am. Mér. pl. 25, fig. 1.

20. CALLISTE LABRADORIDES (BOISS.)

Aglaia labradorides, *Boiss.* Rev. Zool. 1840, p. 67. —— Calliste labradorides, *Gray's* Gen. p. 366, No. 25.

Metallico-virescens; fronte, lineâ latâ a vertice ad dorsum medium, remigibus rectricibusque nigris, his cærulescente limbatis; crisso rufescente.

Long. alæ, $\dot{2}.\ddot{7}$.

Habitat, Santa Fé de Bogota.

Figured, Voy. de la Venus, Ois. pl. 5 fig 2.

21. CALLISTE XANTHOCEPHALA (Tschudi).

Callospiza xanthocephala, *Tsch.* Wiegm. Arch. 1844, p. 285. —— Calliste xanthocephala, *Gray's* Gen. App. p. 17.

Lætè viridis; fronte, loris, gulâ dorsoque summo nigris; dorso medio alisque nigris viridi marginatis; ventre medio crissoque pallidè rufis; capite toto aureo.

Long. alæ, 2.4.

Habitat, East Peru (Tschudi.)

Figured, Tschudi Faun. Per. pl. 17, fig. 2.

22. CALLISTE RUFICERVIX (Fl. Prevost).

Aglaia ruficervix, *Fl. Prev.* Voy. de la Venus, Ois. t. v. fig. 1.

Atro-cyanea; capite purpurascente, nuchâ rufo-castaneâ; abdomine medio crissoque pallidè rufescentibus.

Long. alæ, 2.7.

Habitat, Santa Fé de Bogota.

Figured, Voy. de la Venus, Ois. t. v. fig. 2.

23. CALLISTE LEUCOTIS, Sclater.

Calliste ruficervix, *Bp.* Compt. Rend. Ac. Sc. Par. 1850, p. 77.

♂ Plumis basi plumbeis; abdomine crissoque pallidè rufescentibus; capistro loris et fasciâ transversali verticis nigris; fronte posticè cerviceque atro-cyaneis; nuchâ rufo castaneâ; maculâ utrinque auriculari, tectricibus alarum minoribus, plumisque axillaribus albis.

Habitat, Ecuador (Bourcier).

The above specific character is Prince Canino's description of a *Calliste*, brought from the Republic of Ecuador by M. Bourcier, and which the Prince Canino identifies with *C. ruficervix* (Fl. Prevost). But it appears to me to be a different, though nearly affine species, as *Calliste ruficervix* has no white on the ear-coverts or wings. I have therefore given it the name of *leucotis*. Upon showing to M. Bourcier a specimen of the true *ruficervix*, he informed me, that the one he had brought home, which Prince Canino had described, was decidedly different, having white ear-coverts.

24. CALLISTE ATROCÆRULEA (Tschudi).

Procnopis atrocærulea, *Tsch.* Wiegm. Arch. 1844, p. 285.—— Calliste atrocærulea, *Gray's* Gen. Supp. p. 17.

Suprà atra; capite colloque viridi-cæruleis, sincipite maculâ dilutè stramineâ nitente; dorso nigerrimo; uropygio cæruleo; alis nigris ex violaceo cæruleo marginatis; tectricibus superioribus cæruleis resplendentibus, subtùs cærulea, gutture cinereo lavato.

Habitat, Eastern Peru (Tsch.); Bolivia (Bridges).

The only two specimens I have seen of this species are in the Knowsley collection: they were brought from Bolivia by Mr. Bridges. The species appears to me to come very near *Calliste ruficervix*; indeed, the Prince Canino (Compt. Rend. Ac. Sc. Par. 1851, Jan. 20), states them to be synonymous; but the present species may be distinguished by its black back, and want of the pale rufous colouring of vent and crissum.

25. CALLISTE ATRICAPILLA (Lafr.)

T. (Aglaia) atricapilla, *Lafr.* Rev. Zool. 1843, p. 290.—— Calliste atricapilla, *Bp.* Consp. Av. p. 235, No. 26.

♂ Nitidè griseo-cærulea, capite nigro; pectore toto gulâque glauco-viridibus; pennis caudâque nigris griseo-cæruleo limbatis.

Long. alæ, 2.9.

♀ Metallico-virescens; pectore mari similie sed obscurior; ventre medio crissoque griseo-albescentibus.

Habitat, New Granada (Lafr.); Popayan (Mus. Derb.); Venezuela, La Colonia di Tovar (Dyson).

Figura nulla!

26. CALLISTE ARGENTEA (Tschudi).

Procnopis argentea, *Tsch.* Wieg. Arch. 1844, p. 285. —— Calliste argentea, *Gray's* Gen. Supp. p. 17.

Suprà e cæruleo cinerea, splendore argenteo, pileo nigerrimo; alis nigris è cæruleo limbatis; subtus nigra, gutture stramineo-fusco, hypochondriis dorso concoloribus.

Habitat, Wood Region of North and Middle Peru (Tsch).

Figured, Faun. Per. pl. 14, fig. 2.

This species I have never seen. The description agrees tolerably well with the last species, except the expression '*gutture stramineo-fusco*.' The throat in *C. atricapilla*, both ♂ and ♀ is bright green.

27. CALLISTE VASSORI (Boiss.)

T. (Euphone?) vassorii, *Boiss.* Rev. Zool. 1840, p. 4.——Aglaia diva, *Less.* Echo du M. S. p. 57.——Calliste vassorii, *Gray's* Gen. p. 366, No. 26.

♂ Vividè cærulea; fronte, loris, caudâ, alisque nigris; harum tectricibus cæruleo marginatis.

Long. alæ, 2.9.

♀ Griseo-cineracea, subtùs clarior.

Habitat, Santa Fé de Bogota.

Figured, Mag. de Zool. 1841, pl. 23 ♂.

28. CALLISTE MELANONOTA (Vieill.)

(1819) Tanagra melanonota, *Vieill.* Nov. Dict. d'H. N. xxxii. p. 407.—— Tanagra vittata, *Temminck,* Pl. Col. 48.

♂ Lætè cærulea; dorso medio nigrescente; alis caudàque nigris cæruleo limbatis; vittâ latâ oculari cum fronte atrâ; infrà leviter brunnea.

Long. alæ, 3.0.

♀ Mari similis sed suprà nigrescens; capite uropygioque cærulescentibus.

Habitat, South Brazil; Paraguay (Azara); Maldonado (Darwin).

Figured, Pl. Col. 48, fig. 1 ♂, fig. 2 ♀.

29. CALLISTE CASTANEOVENTRIS, Sclater, Sp. Nov.

Suprà fusco-cærulea, pennis caudâque nigris fusco-cæruleo limbatis; loris et regione oculari atris; infrà brunneo-castanea; pedibus mascillâque nigris, mandibulâ brunnescente.

Long. tota, 6̇.4̈; alæ, 3̇.1̈½.

Habitat, Bolivia (Bridges).

This new species is closely allied to the preceding; but may be distinguished by the lengthened form of the beak, as well as by the uniform dusky blue of the upper surface, and deep chesnut brown of the lower. It is well provided with rictal bristles, as *C. melanonota.* I have seen only one specimen, which is in the collection of the Earl of Derby, to whose kindness I am indebted for an opportunity of examining and describing it. It was brought by Mr. Bridges from Bolivia.

E.—CALLISTÆ FLAVÆ.

30. CALLISTE FLAVA (Gmel.)

Tanagra flava, *Gm.* Syst. Nat. i. p. 896.——Tanagra chloroptera, *Vieill.* Nov. Dict. d'H. N. xxxii. p. 407.——Tanagra formosa, *Vieill.* Enc. Meth. p. 773.——Calliste flava, *Gray's* Gen. p. 366, No. 15.

♂ Pallidé fulvo-flava, subtùs rufescentior; vittá latâ a mento ad medium ventrem atrâ; alis caudâque nigris cærulescente limbatis.

Long. alæ, 2̇.8̈½.

♀ Ochraceo-virescens; infrà albescentior; ventre imo crissoque rufescentibus.

Habitat, Brazil, Pernambuco (Swains.); Rio de Janeiro, Paraguay (Azara).

Figured, Sw. Zool. Ill. N. S. pl. S. N. ♂

31. CALLISTE RUFICAPILLA, Sclater, Sp. Nov.

♂ Virescens; loris capitisque lateribus nigris; pileo ferrugineo; subtùs aliquòt cærulescens; crisso testaceo; maxillâ pedibusque nigris, mandibulâ albicante.

Long. alæ, 3̇.0̈.

♀ Infrà non cærulescens; abdomine medio albido.

Habitat, New Granada, Santa Fé de Bogota.

Figura nulla

32. CALLISTE CHRYSONOTA, Sclater.

? Tanagra cayana, *Linn.* Syst. Nat. p. 315.——? Fringilla autumnalis, *Linn.* Syst. Nat. i. p. 320.——Tanagra cayana, *Desm.* Tan. t. x. (*Certè*).——Calliste chrysonota, *Sclater*, Jard. Orn. Cont. 1850, pl. li.

♂ Pallidè nitido-flava pileo in ferrugineum trahente; fronte, loris, et regione auriculari nigris; gulâ purpurascente; pennis caudâque nigris cæruleo limbatis.

Long. alæ, 2̇:7̈½.

Junior, pileo ferrugineo carens; suprà fusco-viridis; uropygio subtùsque pallidior; ventre crissoque rufescentibus; *Calliste flavæ* ♀ simillima, sed minor.

Long. alæ, 2̇.5̈½.

Habitat, Cayenne and Demerara.

Figured, Desm. Tan. t. x. ♂ (haud adult), Orn. Cont. 1850, pl. li. ♂ (haud adult).

Believing the previous species, which I have now named *Calliste ruficapilla*, to be the true *cayana* of Linnæus, I gave the present one the name *chrysonota*; but having obtained more specimens, I find that *this* is the common Cayenne bird of the group, while the previous one is its New Granadian representative; and I am thereby induced to believe, that the present is probably the one which ought to bear the name *cayana*. Yet it is so difficult to reconcile Brisson's description, from which Linnæus formed his species, with either, that I think it less likely to create further confusion, to keep for the present the new name *chrysonota* for this species.

It may be distinguished from *C. ruficapilla* by its smaller size, black front, and peculiar pale buffy yellow colouring of the back. The specimen figured in the Contributions last year was not quite adult. The adult ♂ has a deep purplish blue on the throat, and bluish edges to the wing and tail-feathers.

33. CALLISTE CUCULLATA (SWAINS.)

Aglaia cucullata, *Sw.* Orn. Draw. pl. 7.——**Calliste cucullata,** *Gray's* Gen. p. 366, No. 9.

♂ Viridescens, infrà rufescente mixta; pileo nigro-cinnamomeo; pectore-cærulescente.

♀ Coloribus minùs lætispectore non cœrulescente.

Long. alæ, 2̇.8̈½.

Habitat, Brazil?

Figured, Orn. Draw. pl. 7. ♂

I have only seen what is apparently the ♀ of this species—it is in Mr. Strickland's collection. It may be distinguished from its affines, by the dark cinnamon of the head and larger size of the beak.

34. CALLISTE CASTANONOTA, SCLATER.

Tanagra gyrola, *Pr. Max.* Beit. zur. Nat. iii. p. 471.

♂ Suprà castanea; oculorum ambitu lorisque nigris; alarum tectricibus, dorsoque postico pallidè flavis; pennis caudâque nigris cærulescente limbatis; infrà nitidè viridis; ventre summo cærulescente, imo medio albicante; crisso tibiisque rufis; rostro nigro; pedibus fuscis.

Long. tota, 5̇.5̈.; alæ, 3̇.1̈½.

♀ Mari similis; sed dorso nigro, alarum tectricibus virescentibus nec flavis (Pr. Max.)

Habitat, South Brazil, Rio Grande do Sul (Pr. Max.)

Mr Gray refers Prince Maximilian's bird to *Calliste peruviana*, Desm., which it resembles very closely; but the back in the latter species is of a fine glossy black. The description given above for the female of the present species would in that respect suit *Calliste peruviana* ♂; but Prince Maximilian describes his *T. gyrola* ♀ as having the wing-coverts green, whereas in *Calliste peruviana* ♂ they are of the same pale yellow as in the present species. The above description is taken from a specimen in Mr. Strickland's collection; I have seen others in the Brussels and Liverpool Museums.

35. CALLISTE PERUVIANA (Desm.)

Tanagra peruviana, *Desm.* Tan. pl. 11. —— Aglaia melanota, *Sw.* Orn. Draw. 31, 43. —— Calliste peruviana, *Gray's* Gen. p. 366, No. 8.

♂ Loris interscapuliisque aterrimis; capite castaneo; dorsi dimidio postico alarumque tectricibus pallidè flavis; infrà læte viridis, tectricibus caudæ inferioribus rufis.

Long. alæ, 2.9.

♀ Interscapuliis nigrescenti-viridibus nec atris; dorso postico alarumque tectricibus viridibus nec flavis; capite subtusque minus lætis; ventre medio flavescente albido.

Habitat, Peru (Desm.)? South Brazil, Rio de la Plata.

Figured, Desm. Tan. pl. 11 ♂; Sw. Orn. Draw. pl. 31 ♂, pl. 43 ♀.

F.—CALLISTÆ LAMPRÆ.

36. CALLISTE CYANOPTERA (Swains.)

Aglaia cyanoptera, *Sw.* Orn. Draw. pl. 8. —— Tanagra argentea, *Lafr.* Rev. Zool. 1843, p. 69. —— Calliste cyanoptera, *Gray's* Gen. p. 366, No. 10.

Calliste argenteo-virescens; capite toto, gulâ, alis, caudâque atris; remigibus rectricibusque cæruleo limbatis.

Long. alæ, 3.0.

Habitat, Venezuela.

Figured, Sw. Orn. Draw. pl. 8.

37. CALLISTE LARVATA (Du Bus).

Calliste larvata, *Du Bus*, Esq. Orn. pl. 9. —— Aglaia fanny, *Lafr.* Rev. Zool. 1847, p. 72.

♂ Calliste capistro, loris, collo inferiore, interscapulio, pectore, alis et caudâ suprà nigerrimis; fronte, genis, temporibus, humeris et epigastrii lateribus nitidè azureis; occipite nuchà et lateribus capitis ponè tempora virescenti-stramineis; gula rubiginosâ; tergo, uropygio, ventris lateribus et tectricibus alarum minoribus cyaneis in glaucum vergentibus; epigastrio albo; ventre et crisso fulvescenti-albidis; remigibus, tectricibus alarum mediis et majoribus, et rectricibus virescenti aureo extùs marginatis. — (Du Bus).

♀ Coloribus minus vividis. — (Du Bus).

Habitat, Tabasco, Mexico (Ghiesbrieght); Veragua, Central America (Warzewickz.); Chamalican River, Spanish Honduras (Dyson).

Figured, Esq. Orn. pl. 9; Icon. Orn. pl. 56, fig. 1.

The only examples I have seen, were brought from Chirique in Veragua by M. Warzewickz.

38. CALLISTE LUNIGERA, Sclater, Sp. Nov.

Plate LXX. Fig. 2.

Tanagra, *Verraux's* Catalogue, No. 8620.

Capite et regione oculari auricularique pulcherrimè aureo-citrinis; dorso superiore, fronte, gulâ loris, pennis, caudâque, et maculâ lunari utrinque post aures atris; dorso inferiore, alarumque tectricibus minoribus, nitidè cæruleo-viridibus; secondariis tertiariisque tenuitèr cæruleo marginatis; pectore nitidè virescente; ventre omninò et crisso rubescenti-brunneis; rostro nigro; pedibus pallidè brunneis.

Long. tota, $\dot{5}.\ddot{2}.$; pennæ, $\dot{2}\cdot\ddot{7}\frac{1}{2}$.

Habitat, Rio Negro (Verraux).

This bird was received by Mr. Edward Wilson from M. Verraux; it is the only individual I have seen of the species. I am much indebted to Mr. Wilson for the loan of this and many other rare species described in the present paper.

39. CALLISTE LAMPROTIS, Sclater, Sp. Nov.

Capite summo vividè rubro aurantio regione oculari cum gulâ et cervice ponè atris; regione auriculari flavissimâ; interscapuliis alis caudâque nigris cærulescente-viridi limbatis; dorso postico pectore et lateribus ventris purè cærulescenti-viridibus; ventre medio crissoque pallidè rufescentibus; rostro nigro; pedibus fuscis.

Long. tota, $\dot{5}.\ddot{3}.$; alæ, $\dot{2}.\ddot{9}.$

Habitat, Bolivia (Bridges).

This species is without doubt very nearly allied to the last, but there are differences between them sufficient to prevent their being

considered as merely varying from sex or age. The whole side of the head, which in the last species presents the well-defined black marking whence the bird derives its name, is in the present species covered with a patch of the most brilliant king's-yellow. The general size of the two species is nearly the same, but in *C. lamprotis* the bill is smaller, the *orange* of the head is of a more reddish tinge, the eye is entirely surrounded by black, and the whole of the wing-feathers, including the primaries, are lined with green. The only specimen I have seen is in the British Museum. For an opportunity of examining and taking a description of it, I am much indebted to Mr. G. R. Gray. It was brought from Bolivia by Mr. Bridges.

40. CALLISTE PARZUDAKII (LAFR.)

Tanagra parzudakii, *Lafr.* Rev. Zool. 1843, p. 97.——Calliste parzudakii, *Gray's* Gen. p. 366, No. 27.

Capite supra aureo; lateribus cum fronte ruberrimis; loris, gulâ, maculâ subauriculari, interscapuliis, remigibus, rectricibusque atris; tectricibus alarum, uropygio, subtùsque aurato-viridibus, corpore subtùs rufescente tincto.

Long. alæ, 3̇.2̈½.

Habitat, Santa Fé de Bogota.

Figured, Mag. de Zool. 1843, pl. 41.

This species may be distinguished from all others of the genus, by the brilliant red of the front and sides of the head.

41. CALLISTE CHRYSOTIS (DU BUS).

Calliste chrysotis, *Du Bus*, Esq. Orn. pl. 7.

Nitidè viridis; capite, loris, caudâque atris; pennis interscapuliisque atris nitido-viridi marginatis; fronte et regione opthalmicâ fulvo-auratis; ventre medio crissoque rufo-castaneis.

Habitat, Peru (Du Bus), Rio Negro (Verraux).

Figured, Esq. Orn. pl. 7.

G.—CALLISTÆ GYROLÆ.

42. CALLISTE GYROLA (LINN.)

Tanagra gyrola, *Linn.* Syst. Nat. i. p. 315.——Aglaia chrysoptera, *Sw.* An. in Men. p. 356.——Calliste gyrola, *Gray's* Gen. p. 366, No. 5.

♂ Lætè viridis; capite mentoque rufis; maculâ flexurali aureâ; ventre cærulescente.

Long. alæ, 2.7.

Junior, viridis unicolor, capite rufo carens.

Habitat, Cayenne and Demerara.

Figured, Desm. Tan. pl. 6 ♂; Pl. Enl. 133, fig. 2 ♂; Edwards, pl. 23; Desm. Tan. pl. 7 (avis junior ?)

43. CALLISTE GYROLOIDES (LAFR.)

(1838) Aglaia peruviana, *Sw.* An. in Men. p. 356.——Aglaia gyrola, *D'Orb.* and *Lafr.* Mag. de Zool. 1847, p. 32.——Callospiza gyrola, *Tsch.* Wiegm. Arch. 1844, p. 286.——(1844) Calliste cyanoventris, *Gray's* Gen. p. 366, No. 19.——(1847) Aglaia gyroloides, *Lafr.* Rev. Zool. 1847, p. 279.——Calliste gyroloides, *Bp.* Consp. Av. p. 234.

Similis *C. gyrolæ*, sed uropygio etiam cærulescente, alis longioribus.

Long. alæ, 3.1½.

Habitat, Peru (W. Hooker); Wood region of North and Middle Peru (Tschudi); Yuracares, Bolivia (D'Orb.); New Granada, Anolaima, and Santa Fé de Bogota.

Figura nulla!

44. CALLISTE DESMARESTI (GRAY).

Tanagra gyrola, *Swans.* Zool. Ill. N. S. pl. 23.——(1844) Calliste desmaresti, *Gray's* Gen. p. 366, No. 6.——(1847) Aglaia viridissima, *Lafr.* Rev. Zool. 1847, p. 277.

Omnino viridis; capite mento tibiisque lætè rufis.

Long. alæ, 2.7.

Habitat, Trinidad; Venezuela, Caraccas (Hartlaub).

Figured, Sw. Zool. Ill. N. S. pl. 23.

H.—CALLISTÆ CÆRULEO-NIGRÆ.

45. CALLISTE BRASILIENSIS (Linn.)

Tanagra brasiliensis, *Linn.* Syst. Nat. i. p. 316.——(?) Tanagra barbadensis, *Kuhl.* Ind. ad Pl. Enl. p. 3.——(?) Calliste albiventer, *Gray's* Gen. p. 366, No. 11.——Calliste brasiliensis, *Gray's* Gen. p. 366, No. 11.——Callospiza barbadensis, *Bp.* Comp. Rend. 1851, p. 30.

♂ Dilutè cyanea; occipite, dorso medio, rectricibus, remigibusque atris; harum primariis cyaneo marginatis; ventre medio, crisso, plumisque axillaribus albis.

Long. alæ, 2̇.3̈½.

♀ Coloribus minùs intensis.

Long. alæ, 2̇.0̈½.

♂ Junior, tectricibus alarum minoribus albis.

Long. alæ, 2̇.3̈.

Habitat, Brazil generally (Pr. Max.).

Figured, Pl. Enl. 179, fig. 1; Pl. Enl. 155, fig. 1?

The bird figured Pl. Enl. 155, fig. 1, to which Kuhl gave the specific name "*barbadensis*," and Mr. Gray "*albiventer*," is probably this. It may however be = *C. flaviventris* ♀, as Seba, the original authority for the species states it to be "*ex insulis Berbicensibus*," which Brisson mis-copied into "*Barbadensibus*." Hence the name "*barbadensis*." I cannot imagine why the Prince Canino should have preferred this name, giving a wrong locality as it does, to the older Linnæan and most correct specific designation of "*brasiliensis*."

46. CALLISTE NIGRICINCTA (Bp.)

Aglaia nigricincta, *Bp.* Proc. Zool. Soc. 1837, p. 121.——Calliste nigricincta, *Gray's* Gen. p. 366, No. 16.

Similis *C. brasiliensi*; sed minor, rostro minore, capite et caudæ tectricibus virescente tinctis.

Habitat, Peru (*Non vidi*).

Figura nulla!

47. CALLISTE FLAVIVENTRIS (Vieill.)

Tanagra mexicana, *Linn.* **Syst. Nat. i. p. 315.——Fringilla tricolor,** *Linn.* **Syst. Nat. i. p. 323.——Tanagra flaviventris,** *Vieill.* **Nov. Dict. d'H. N. xxxii. p. 411.**

♂ Intensè cyanea; occipite, dorso, alis, caudâque atris; maculâ flexurali thalassinâ; abdomine et crisso flavis.

Long. alæ, 2̇.9̈.

♀ Abdomine flavescente-albido.

Habitat, Cayenne; Trinidad; Barra do Rio Negro (Wallace).

Figured, Desm. Tan. pl. 5; Pl. Enl. 290, fig. 2. Edwards, pl. 350.

I have not retained the Linnæan name *mexicana,* because it indicates a wrong locality.

48. CALLISTE BOLIVIANA (Bon.)

Aglaia mexicana, *D'Orb.* **and** *Lafr.* **Mag. de Zool. 1837.——Tanagra flaviventris,** *D'Orb.* **Voy. l'Am. m. p. 270.——Callospiza boliviana,** *Bp.* **Compt. Rend. Ac. Sc. Par. 1851, p. 80.**

Minor; nigricans; fronte tantùm, genis, gulâ, pectore, lateribus, uropygio humerisque cyaneis; ventre flavissimo (Bp.)

Long. alæ, 2̇.7̈½.

Habitat, Guarayos and Yuracares, Bolivia (D'Orb.); Lucia (Mus. Derb.) A skin received from Mr. Wallace, at Copiu, near Para, July, 1849, may belong to this species. It differs from the preceding only in the want of the thalassine flexure-spot and shorter wing. But it is singular, if this is so, that on the other hand from Barra do Rio Negro, high up in the interior, Mr. Wallace has remitted the Cayenne species. Specimens in the British Museum marked (1843) 5, 24, 94, are said to be from Lima.

ON TWO NEW SPECIES OF *EUPHONIA*, DESM., ALLIED TO *E. CHLOROTICA*.

BY H. E. STRICKLAND.

THE genus *Euphonia* (so named by Desmarest, but erroneously written *Euphone* by some authors) has been much entangled with the genera *Calliste* and *Tanagra*, by those who have overlooked its true characters. It is, however, a very strongly marked genus of the great family *Tanagridæ*, and presents no indications of a transition into other genera. The remarkable and unique anatomical structure of the intestines, which are wholly devoid of a stomach (that organ being represented by a minute tubercle), proves a wide physiological separation from the other *Tanagridæ*. The denticulations of the upper mandible, varying from two to four in number in different species, but never, I believe, reduced to unity, afford a convenient external character for determining the genus.

I have before me five species of *Euphonia*, all of which agree in having the throat and upper parts glossy black, the front and lower parts being yellow. From this similarity in plumage, they have been more or less confounded under the specific name of *chlorotica*, which belongs to one of them. Specimens of all these species occur in Mr. Sclater's collection and in my own.

1. EUPHONIA CHALYBEA, MIKAN.

Tanagra chalybea, *Mikan*, Del. Faun. Bras. pl. 3.——Euphone ænea, *Sundevall*, in Vetensk. Acad. Handl. 1833, pl. xi. fig. 4.——Euphone pardalotus, *Lesson*, in Écho Mond. Sav.

Large; greenish black above; mandibles tumid; primaries narrowly margined with yellow externally; no white on rectrices; wing, $\dot{2}\cdot\ddot{8}$.

Habitat, Brazil.

Note.— Prince of Canino has made a new genus of this species from its tumid bill, *Pyrrhuphonia.*— P. L. S.

2. EUPHONIA CHLOROTICA, Linn.

Tanagra cayanensis nigro-lutea, *Briss.* Orn. vol. iii. p. 34, pl. 2, f. 3.—Tanagra chlorotica, *Linn.* Syst. Nat. vol. i. p. 317.—Tanagra violacea, β *Lath.* Ind. Orn. p. 430.—Euphone chlorotica, *Sundevall,* in Vetensk. Acad. Handl. 1833, pl. x. f. 2, 3.

Purplish black above; yellow front extending to the summit of the eye; lower parts, tail-covers included, pure yellow; basal half of inner web of all the remiges, white, with a nearly transverse termination; a post-medial square white spot on the inner web of the external pair of rectrices. Beak moderate, whitish at base; wing, $\dot{2}.\ddot{1}$.

Habitat, Cayenne (Brisson), Brazil (Sundevall).

3. EUPHONIA TRINITATIS, Strickland, Sp. Nov.

Bluish-black above; yellow front extending behind the eye; lower parts, tail-covers included, deep yellow; margin of inner web of all the primaries white, for two-thirds their length, the white extending across the web on the secondaries; a large medial oval white spot on the inner webs of the two external pairs of rectrices. Beak moderate, whitish at base; wing, $\dot{2}.\ddot{2}$.

Habitat, Trinidad, Cumana, Venezuela, St. Thomas (Sclater).

4. EUPHONIA STRICTIFRONS, Strickland, Sp. Nov.

Golden Titmouse, var. *Edw.* Birds, vol. v. p. 113, desc. 2.

Small; head purplish-black, back bluish-black; yellow front extending only to the fore part of the eye; lower parts pure yellow; lower tail-covers white; margin of inner web of all the primaries white, for two-thirds their length, the white extending across the web on the secondaries; inner webs of the three external pairs of rectrices medially white, their base and tips black. Beak moderate, whitish at base. Wing, $\dot{1}.\ddot{9}$.

Habitat, Surinam (Edwards), Cayenne (Sclater).

On this species Mr. Sclater remarks, "Cabanis has described a bird in Schomburgk's Reise nach Guiana, vol. iii., which he calls *Euphonia minuta*, and which he describes as very like the female of *Euphonia chlorotica*, but smaller, and probably ♀ of a smaller species. Therefore I think it not unlikely, that your *E. strictifrons* is the male of this species."

5. EUPHONIA XANTHOGASTRA, Sundevall.

Golden Titmouse, *Edw.* Birds, pl. 263, f. sup.—— Euphone xanthogaster, *Sundevall*, in Vetensk. Acad. Handl. 1833, pl. x. f. 1.

Purplish black above; lower parts, tail-covers included, and front to behind the eye, orange-yellow; two or three first primaries wholly black, the basal half of the inner webs of the remaining remiges white, with an oblique termination; a postmedial oblong white spot on the inner web of the external pair of rectrices. Beak moderate, wholly black. Wing, 2.4.

Habitat, Brazil (Sundevall), Surinam (Edwards).

It is impossible to say whether the *Euphonia affinis*, thus vaguely described by Lesson, *Revue Zoologique*, 1842, p. 175, belongs to the present group, and whether in that case it forms a sixth species, or is synonymous with one of the above: "Capitis dimidiâ parte, thorace, abdomine, tectricibusque inferioribus aureis; sincipite, collo, gula, dorso, alis caudâque cyaneo violaceo tincto; alis totis nigerrimis; rostro nigro, pedibus rufis.—Hab. Realejo." This most careless of writers has not told us *which half* of the head is yellow, but from the *sinciput* being violaceous, it would appear to be the posterior half. I suspect, however, that Lesson meant to write *occipite* for *sincipite*, in which case the front would be yellow, and the general coloration of the bird would agree with the group before us, though its red legs and Mexican *habitat* probably indicate a distinct species.

Mr. Sclater remarks, "I believe Edwards' figure to be intended for *E. chlorotica vera*, and not for this species, which is not from Surinam, but from N. Brazil and New Granada.

DESCRIPTION

OF

SOME NEW SPECIES AND A NEW GENUS OF *DENDROCOLAPTINÆ.*

By T. C. EYTON, Esq., F.L.S.

Dendrocolaptes multistrigatus, Eyton.

D. rostro parùm arcuato valdè depresso cultrato; gulâ, maculis triangularibus capitis vittâque postoculari flavo, rufis; singulis pennis pectoris laté, colloque superiore angusté medio eodem colore strigatis; abdomine pectoreque imo flavo-rufis singulis pennis quatuor striis angustis atris et transversis notatis; illis pectore atro marginatis; dorso brunneo-olivaceo, inferiore parte uropygio remigibus rectricibusque læté cinnamomeo rufis his apicibus brunneo viridi vix tinctis; rostro mandibulâ superiore atro inferiore ad basin corneo.

Long. corp. 1̇0.5̈.; rost. 1̇.6̈.; tar. 1̇.

This species of *Dendrocolaptes* approaches nearer to *D. platyrostris*, Spix, in the form of the bill than to any other species, but has it more slender, not so broad at the base, but at the same time more depressed. The specimen from which the above description is taken is in Lord Derby's Museum at Knowsley.

Picolaptes validirostris, Eyton.

P. rostro valido, arcuato, cultrato, ad basin palidé brunneo; capite brunneo-atro, pennis singulis in medio rufo-flavo laté strigulatis et nigro-fusco fimbriatis, striis colli mediis staturâ inter illos capitis et dorsi; gula genisque sordidé albis; pectore abdomineque pennis in medio parte eodem coloris fusco leviter fimbriatis; uropygio remigibus rectricibusque læté cinnamoneo-rufis, remigibus externis apicibus brunnis viridi parcé tinctis; pedibus brunneo-corneis.

Long. corp. 8̇.5̈.; ros. fron. 1̇.5̈.; tarsi, 9̈.; alæ, 4̇.5̈.

The above may be easily distinguished from the other species of *Picolaptes*, by the greater length and strength of the bill. The specimen is in the Knowsley Museum.

Picolaptes atripes, Eyton.

P. præcedente similis sed pennis medio parte læté albis nigro fimbriatis, rostro breviore et gracillioee, et pedibus atris.

Long. corp. 8̇.5̈.; ros. fron. 1̇.5̈.; tar. 9̈.; alæ, 4̇.7̈½.

This species approaches very nearly to the preceding one, but may be at once distinguished from it by the superior length of the wing, the slenderness of the bill, the black or very dark brown feet, and by the centre of the feathers being pure white instead of dirty white. A specimen is in Lord Derby's Museum and another in my own.

DENDREXETASTES, N. G.

Generic Character.

Rostrum validum, arcuatum, parúm cultratum, haud altior quam latum, naribus magnis vix ovalibus.

Pedes tarsique validi, cauda duabus rectricibus mediis longissimis.

Dendrexetastes capitoides, Eyton.

D. capite, dorso abdomineque brunneis, pectore, gulâ colloque posteriore, pennis medio parte laté albis, atris, dein brunneo fimbriatis, gulâque brunneo solummodo fimbriatâ; uropygio, rectricibus remigibusque laté rufo-cinnamoneis illis apicibus brunneo-viridi exteriore latere præpillatis.

Long. corp. 9̇; ros. fron. 1̇.2̈.; tar. 1̈1̈; ala, 4̇.

From the form of the bill in this curious genus it might at first sight be supposed to be related to the *Capitonniæ;* but being destitute of bristles at the base of the bill, and also the toes being placed, three in front and one behind, point out its true position to be among the *Dendrocolaptinæ*. It also agrees with the latter family in the structure of the tail and in the style of the plumage. The specimen from which the above description is taken is in the Knowsley Museum, and was purchased from Mr. Leadbeater, the locality is unknown. I cannot conclude this paper without expressing my thanks to Lord Derby for the facilities which he has always afforded me in exploring the riches of his Museum.

TROCHILUS (THALURANIA) VERTICEPS, GOULD.

APRIL, 1851, PL. LXXI.

THIS Humming Bird was sent by post from Quito to Mr. Gould, by Professor William Jameson, March, 1851, but without remark. Mr. Gould considers it new, and has sent us the following description. It is similar in every respect to *T. columbiana*, except that it is capped with *green* instead of *blue*, and that it is a trifle larger in size.

"Forehead and anterior part of the head occupied by a round spot of shining green; throat and breast also shining green; back of the head, neck, back, rump, and upper tail-coverts, dark glossy green, washed with bronze on the back of the neck; shoulders metallic blue passing into green; wings purplish-black; tail greenish-black, and considerably forked; abdomen dark glossy blue; under tail-coverts greenish-blue margined with white; tarsi clothed with grayish-white feathers; bill black; feet fleshy-brown."

Total length, 4¼ inches; bill, ⅞; wing, 2⅜; tail, 1⅞.

TURDUS AURANTIIROSTRIS, HARTLAUB.

PLATE LXXII.

Turdus aurantiirostris, *Hartl.* Rev. et Mag. de Zool. ii. 1850, p. 158.——Catharus immaculatus, *Bonp.* Conspect. p. 278 (Auct. Hartl.)

M. HARTLAUB of Bremen has kindly forwarded to us a drawing of a thrush from Venezuela, which he last year described in the *Revue et Magazine de Zoologie.* Our plate is lithographed from this drawing, and we add below the observations which accompanied it. A bird is described by the Prince of Canino in his Conspectus, from the Caraccas, which M. Hartlaub refers to this, and of which the Prince constitutes a new genus, though to judge from the drawing now received, we would have considered it a true Thrush.

"I formerly described the bird from a very fine specimen, freshly imported from Caraccas. It had then the beak and the naked skin round the eye of a lively orange colour. When I saw the same specimen about one year later, all this fine colour had vanished, and the same parts were of an obsolete yellow. Bonaparte's generic separation is to be adopted, at least I adopt it with great pleasure. He says in his generic character '*cauda brevis.*' This is not quite correct, and I would propose to put for it *cauda breviuscula.*"

TROCHILUS (SPATHURA) MELANANTHERA, JARDINE.

PLATE LXXX.

LAST post from Quito brought us some Humming-Birds which were of great interest; among them was one belonging to the sub-group, which has been called *Spathura*, and of which the beautiful species *S. underwoodii*, with its white boots and racket tail, has been considered typical. This species, last figured in the only number yet published of Mr. Gould's Monograph, is found in the neighbourhood of Santa Fé de Bogota, and in Galipan, between La Guayra and the Caraçcas, at an elevation of from 5000 to 9000 feet. Of the specimen lately received, Professor Jameson writes (considering it to be *T. underwoodii)*,—" I am not aware of its being hitherto met with to the south of the equator." Along with a true *T. underwoodii* Mr. Gould had enclosed a ♀ of a *Spathura* with an unspotted breast, with an opinion, that the male of the latter would prove distinct; and on comparing the Quitian birds with these and the figure and description in the Monograph, there appears to be a considerable difference. The proportions and tints vary, and the large space of black on the chin and maxilla is very marked. We are not aware whether M. Bourcier has noticed it, and examination of more specimens must decide whether it is only a local variety, but meanwhile we have applied the above specific name, quite provisionally, until the point as to species is cleared up, and give a description from the specimens before us.

♂ *Above*, green, bronzed on upper tail-covers; wings purplish-black; tail bronzed green, the long exterior feathers black, the spathulate ends velvet black with rich green reflections. *Below*, chin and sides of maxilla velvet black; centre of the throat and stretching round below the auriculars, with the sides of the neck, emerald green, forming a brilliant gorget; belly and vent green; boots large and pure white.

Entire length, $\dot{4}$. $\ddot{8}$; bill, $\ddot{5}$; wing, $\dot{1}$. $\ddot{8}$; outer tail-feathers, $\dot{2}$. $\ddot{8}$.

♀ *Above*, green, much bronzed on the whole crown; tail slightly forked; outer feather tipped with white, second with a slight indication. *Below*, pure white; on flanks green with a few spots on the side of the belly; under tail-covers pale sienna.

Length, $\dot{2}$. $\ddot{9}$. to $\dot{3}$; bill, $\ddot{6}$; wing, $\dot{1}$.$\ddot{6}$.

1st August, 1851.

SYNOPSIS

OF

THE GENUS *EUPHONIA*,

WITH DESCRIPTIONS OF NEW SPECIES

BY PHILIP LUTLEY SCLATER, MAY, 1851.

THE Prince Canino separates this genus, which is a very natural one, taken as a whole, into several others. None of the divisions appear to me to deserve that high rank, being founded chiefly on the style of plumage. I have used his names for the sections in the following paper where they can be adopted, but prefer keeping *Euphonia* as a generic name for all the species.

SECTIO I^{ma} *EUPHONIA*.

A	*Cæruleo-cephalæ*	(*Cyanophonia*, BP.)	3	species.
B	*Chloroticæ*	(*Euphonia*, BP.)	6	...
C	*Violaceæ*		3	...
D	*Nigritæ*		3	...

SECTIO II^{da} *CHLOROPHONIA*, BP.

A	*E. Virides*	5	species.
B	*E. Serrirostres*	1	...

SECTIO III^{tia} *PYRRHOPHONIA*, BP.

A	*E. Tumidirostres*	2	species.

SYNOPSIS OF THE GENUS *EUPHONIA*,

SECTIO I$^{\text{ma}}$ *EUPHONIA.*

A.—EUPHONIÆ CÆRULEOCEPHALÆ.

Subtùs, nisi gutture, flavæ; capite cæruleo.

1. EUPHONIA MUSICA (GMEL.)

Pipra musica, *Gmel.* Syst. Nat. i. p. 1004.——Emberiza flavifrons, *Sparm.* Mus. Carls. No. 92. ♀ —— Euphonia cæruleocephala, *Sw.* Class. Birds, ii. p. 286. —— Euphonia musica, *Gray's* Gen. ii. p. 367, No. 1.——Cyanophonia musica, *Bp.* Rev. Zool. 1851, No. 3.

♂ Violaceo-atra; capite cæruleo; frontali vittâ flavissimâ nigro marginatâ; gulâ atrâ; subtùs cum dorso postico brunneo-aurantia.

Long. alæ, 2̇.5̈.

♀ Olivaceo-viridis, subtùs levior; gulâ flavescente; capite cæruleo; vittâ latâ frontali flavissimâ, nigro marginatâ.

Long. alæ, 2̇.4̈.

Habitat, St. Domingo (Mus. Brit.); Cayenne?

Figured, Pl. Enl. 809, fig. 1 ♂; Desm. Tan. t. 19 ♂—20 ♀; Sparm, Mus. Carls. pl. 92 ♀; Vieill. Gal. des Ois. Supp. pl. S. N., ♂ and ♀.

There are two skins of this species in the British Museum, which Mr. George Gray has kindly allowed me to examine, received from San Domingo, to which island Buffon attributes his "*Organiste,*" whence Gmelin formed the name "*Pipra musica.*" A ♀ in my own collection is apparently from Cayenne. This is curious, as the Trinidad species is *E. nigricollis,* of which I have several ♂s and ♀s received from that island. The figures of Desmarest and Vieillot both give a yellow throat to this species; but I believe Desmarest's bird to have been in an immature state, as there are appearances of the black on each side of the neck, and Vieillot's figure was probably merely copied from it.

2. EUPHONIA NIGRICOLLIS (Vieill.)

Plate LXXV. Fig. 1.

(1818) Pipra cyanocephala, *Vieill.* Nov. Dict. d'H. N. xix. p. 165 ♀?——(1819) Tanagra nigricollis, *Vieill.* Nov. Dict. d'H. N. xxxii. p. 41.——(1823) Tanagra aureata, *Vieill.* Enc. Méth, p. 782.—— Tanagra chrysogastra, *Cuv.* Reg. An. 2 ed. p. 366.——Euphonia musica, *Max.* Beitr. Zur Nat. p. 443.——Euphonia nigricollis, *D'Orb.* and *Lafr.* Mag. de Zool. 1839, p. 30.——Cyanophonia aureata, *Bp.* Rev. Zool. 1851, No. 3.

♂ Violaceo-atra, capite cæruleo; dorso postico subtusque aurantia; gutture et fronte aterrimis.

Long. alæ, $\dot{2}.\ddot{4}$.

♀ Flavo-olivacea, subtùs flavescentior; capite cæruleo; fronte angustè rubrâ.

Habitat, Brazil, Cabo Frio, Rio de Janeiro (Pr. Max.); Corrientes and Rincon de Luna (D'Orb.); Paraguay (Azara); Bogota; Trinidad; Ecuador (Verreaux).

3. EUPHONIA ELEGANTISSIMA (Bp.)

Pipra elegantissima, *Bp.* Proc. Zool. Soc. 1837, p. 112.——Euphonia cælestis, *Less.* Rev. Zool. 1839, p. 42.——Euphonia elegantissima, *Du Bus*, Esq. Orn. pl. 8.

♂ Suprà cum gutture violaceo-atra; capite cæruleo; fronte nigro-castaneo, atro-marginato; subtùs flavo-æruginosa.

Long. alæ, $\dot{2}.\ddot{7}$.

♀ Similis *E. nigricolli* ♀, sed fronte castaneo latiore et intensiore; gulâ rufescente.

Long. alæ, $\dot{2}.\ddot{7}$.

Habitat, South Mexico; Santo Pedro, near Oaxaca (Du Bus).

Figured, Esq. Orn. 8, fig. 1 ♂, 2 ♀.

B.—EUPHONIÆ CHLOROTICÆ.

Subtùs, nisi gutture, cum capite flavæ.

4. EUPHONIA CHLOROTICA (Linn.)

Tanagra chlorotica, *Linn.* Syst. Nat. p. 317.——Euphonia chlorotica, *Licht.* Verz. der Doubl. p. 29.

♂ Violaceo-nigra, capite dimidio subtùsque aureis; rectricibus duabus extimis albo notatis.

Long. alæ, 2̇. 1̈.

♀ Suprà olivacea, subtùs flavescens.

Long. alæ, 2̇.0̈.

Habitat, Cayenne and Demerara.

5. EUPHONIA TRINITATIS, Strickland.

Euphonia trinitatis, *Strickl.* Jard. Orn. Cont. 1851, p 72.

♂ Cæruleo-atra, nec carmino tincta; capite toto subtùsque, nisi gutture, flavis.

Long. tota, 3̇.0̈; alæ, 2̇.2̈.

Habitat, Trinidad; Venezuela, Cumana; St. Thomas.

This species differs from the preceding, in being steel-blue-black without the carmine tinge on the back of the head and throat; also the *whole* top of the head is bright yellow.

6. EUPHONIA STRICTIFRONS, Strickland.

Euphonia strictifrons, *Strickl.* Orn. Cont. 1851, p. 72.— Euphonia pumila, *Bp.* Rev. Zool. 1851, No. 2.

E. æneo-nigra, occipite cæruleo tincta; vittâ frontali angustâ, subtùsque, nisi gutture, flavis; crisso albo.

Long. tota, 3̇.0̈; alæ, 2̇.0̈.

Habitat, Cayenne.

May be immediately distinguished from others, by the narrowness of the frontal spot and white under tail-covers. I suspect *E. minuta*, Cabanis, of Schomburgk's Reise n. Guiana to be the ♀ of this species; which name, if this be so, will have the priority over Mr. Strickland's.

7. EUPHONIA CHALYBEA (Mikan).

(1820) Tanagra chalybea, *Mikan*, Faun. and Flor. Bras. pl. 3.——(1834) Euphone ænea, *Sund.* Kon. Vet. Ac. Hand. 1834, p. 309.——Euphone pardalotes, *Less.* Echo de M.S. 1844.——Euphonia chalybea, *Strickl.* Jard. Orn. Cont. 1851, p. 71.

♂ Suprà cum gulâ nigro-ænea; fronte subtùsque flavis; rostro robusto, tumido.

Long. alæ, 2̇.8̈.

♀ Suprà olivacea; subtùs corpore medio grisso; lateribus flavescentibus.

Habitat, Brazil (Mikan).

8. EUPHONIA XANTHOGASTRA (Sundeval).

Euphonia xanthogastra, *Sund.* So. Vet. Ac. H. 1833, t. x. fig. 1.——Euphonia brevirostris, *Bp.* Rev. Zool. 1851, No. 3.

♂ Similis chloroticæ sed major, rostro majore, pileo toto abdomineque fulvo-flavis nec aureis; rectrice unâ extimâ albo notatâ.

Long. alæ, 2̇.5̈.

Habitat, North Brazil, New Granada, Anolaima.

Figured, Sv. Vet. Ac. Hein. 1833, t. x. fig. 1 ♂.

M. Verreaux's specimens of *E. brevirostris*, Bp., certainly belong to this species, though the Prince Canino's short description is hardly sufficient for its identification.

9. EUPHONIA RUFICEPS, D'Orb. and Lafr.

Euphonia ruficeps, *D'Orb.* and *Lafr.* Mag. de Zool. 1839, p. 30.

F. suprâ cum gutture nigro-violacea; capite summo castaneo; infrà pectore abdomineque mediis rufescentibus, lateribus flavis; unâ aut duabus extimis rectricibus albo notatis (D'Orb.)

Habitat, Yuracares, Bolivia (D'Orbigny).

Figured, D'Orb. Voy. de l'Amér. Mér. p. 22, fig. 2.

Non vidi.

C.—EUPHONIÆ VIOLACEÆ.

Subtùs omnino cum capite flavæ.

10. EUPHONIA VIOLACEA (Linn.)

Tanagra violacea, *Linn.* Syst. Nat. p. 315.——Euphonia violacea, *Licht.* Verz. der Doubl. p. 29.

♂ Nigro violacea; capite a fronte ad oculos subtùsque flavis; rectricibus 2 aut 3 extimis albo notatis.

Long. alæ, 2̇.2̈.—2̇.4̈.

♀ Olivaceo-viridis; subtùs corpore medio in flavum trahente.

Habitat, Trinidad; Cayenne; Guiana (Schomburgk); Brazil, Rio de Janeiro.

11. EUPHONIA LANIIROSTRIS, D'Orb. and Lafr.

Euphonia laniirostris, *D'Orb.* and *Lafr.* Mag. de Zool. 1839, p. 30.

E. similis *E. violacea*, sed æneo-nigra nec violaceo tincta; capite summo subtùsque flavissimis; rostro robustiore.

Long. tota, 4̇.5̈; alæ, 2̇.4̈½.

Habitat, Bolivia, Yuracares, Yungas, Guarayos, and Santa Cruz de la Sierra (D'Orb.); Brazil (Verreaux), No. 10,831; Chiriqué (Mus. Brit.)

This species is blue-black without the purple tinge of *E. violacea*, and the yellow both on the head and beneath is much brighter. Specimens in the British Museum were brought from *Chiriqué* by Captain Kellett.

12. EUPHONIA MELANURA, Sclater, Sp. Nov.

E. similis *E. violacea*, sed minor, pileo toto flavo; rectricibus omninò nigris, neque albo notatis.

Long. tota, 4̇.0̈; alæ, 2̇.3̈.

Habitat, Barra do Rio Negro (Wallace). Mr. Wallace has sent home many skins of this species from Barra, at the junction of the Rio Negro with the Amazon. They all agree in the absence of white markings on the tail-feathers, and greater amount of yellow on the head than in the common species.

D.—EUPHONIÆ NIGRITÆ.

Suprà omnino nigræ.

13. EUPHONIA RUFIVENTRIS (Vieill.)

Tanagra rufiventris, *Vieill.* Nov. Dict. d'H. N. xxxii. p. 426. —— Euphonia rufiventris, *Gray's* Gen. p. 367, No. 12. — Euphonia bicolor, *Strickl.* Jard. Orn. Cont. 1850, part 2.

E. nigerrima, cæruleo tincta; primariis fuscis, olivaceo-marginatis; abdomine rubro-aurantio, lateribus flavescentibus.

Long. alae, 2̇ . 3̈.

Habitat, Peru.

Figured, Orn. Cont. 1850, pl. 49, fig. 2; Vieill. Gal. des Ois., Suppl.

14. EUPHONIA PECTORALIS (Lath.)

Pipra pectoralis, *Lath.* Ind. Orn. Supp. p. 57. —— Euphonia rufiventris, *Licht.* Verz. der Doubl. p. 30. —— Euphonia castaneoventris, *Vieill.* Gal. Ois., Supp. —— Euphonia umbilicalis, *Less.* Trait. d'Orn. p. 46 (♀) —— Euphonia pectoralis, *Gray's* Gen. p. 367, No. 7.

♂ Supra, subtùsque ad imum pectus nigro-violaceo-cærulea; abdomine toto brunneo castaneo; pectoris lateribus lætè flavis.

Long. alæ, 2̇ . 4̈½.

♀ Olivacea; nuchâ pectore et abdomine medio griseis; ventre imo crissoque castaneis.

Long. alæ, 2̇ . 4̈.

Habitat, Brazil, most provinces (Pr. Max.); Bahia (Licht.)

Figured, Vieill. Gal. Ois. Supp. ♂.

15. EUPHONIA CAYANA (Linn.)

Tanagra cayana, *Linn.* Syst. Nat. p. 11. —— Tanagra cayennensis, *Gmel.* Syst. Nat. p. 894. —— Euphonia cayana, *Bp.* Consp. Av. p. 233.

E. tota atro-violacea; pectoris lateribus aurantiis.
Long. alæ, 2̇ . 5̈.
Habitat, Cayenne; Guiana (Schomb.)
Figured, Pl. Enl. 114, fig. 3. ♂; Desm. Tan. pl. 26.

Sectio II^{da} *CHLOROPHONIA.*

A.—CHLOROPHONIÆ VIRIDES.

16. EUPHONIA VIRIDIS (Vieill.)

Tanagra viridis, *Vieill.* Nov. Dict. d'H. N. xxxii. p. 426. —— Pipra chlorocapilla *Shaw's* Zool. vol. xiii. p. 255. —— Euphonia viridis, *Gray's* Gen. p. 367, No. 10. —— Procnias viridis, *Tschudi's* Fauna Per. p. 107.

♂ Capite toto et pectore lætè viridibus; dorso toto cum ciliis oculorum vividè cæruleo; infrà citrino-flava.

Long. tota, 4̇ . 2̈; alæ, 2̇ . 5̈.

♀ Collo postico tantùm cæruleo, dorso toto capite concolore; ventre medio flavescente, lateribus virescentibus.

Habitat, Brazil, Santa Fé de Bogota.

Figured, Pl. Col. 36, fig. 3.

17. EUPHONIA FRONTALIS.

Chlorophonia frontalis, *Bp.*, Verreaux, Specimen No. 10, 583.

Similis *E. viridi*, sed fronte flavâ; uropygio colloque postico tantùm cæruleis; dorso medio viridi.

Long. tota, 5̇ . 0̈; alæ, 2̇ . 5̈½.

Habitat, Ecuador (Verreaux).

A single specimen of this bird, in a collection just received by Mr. Edward Wilson from M. Verreaux, is labelled as above quoted; but I am not aware that the name has been yet published.

18. EUPHONIA PYRRHOPHRYS, Sclater, Sp. Nov.

Plate LXXV. Fig. 2.

E. lætè viridis; capite purpurascente-cæruleo, fronte superciliisque rubris; ventre medio flavescente; lateribus virescentibus.

Long. tota, 4̇ . 0̈; alæ, 2̇ . 6̈½.

Habitat, Columbia?

A skin of this species has been some time in my possession; the only other I have seen, is in the British Museum, No. (1844) 12, 29, 30.

19. EUPHONIA PRETREI, Lafr.

Tanagra (Euphonia) pretrei, *De Lafr.* Rev. Zool. 1843, p. 97.

E. lætè viridis; capite purpurascente-cæruleo; torque pectorali vix apparente nigro-castaneâ; ventre medio castaneo, lateribus et uropygio flavissimis.

Long. alæ, 2̇ . 6̈.

Habitat, Columbia.

Figured, Mag. de Zool. 1843, Ois. t. xliii.

Specimens are in the British Museum, labelled, 1843, 2, 9, 14.

20. EUPHONIA OCCIPITALIS, Du Bus.

Euphonia occipitalis, *Du Bus*, Esq. Orn. pl. 14.

♂ Lætè viridis; semitorque vix apparente ponè et vertice cæruleis; vittâ pectorali nigro-castaneâ; ventre crissoque flavis; lateribus viridibus.

Long. alæ, 2 . 8.

♀ Lucidè viridis; pennis nigris eodem viridi limbatis; maculâ occipitali et semitorque haud benè definito cæruleis; infrâ abdomine medio flavescente.

Long. alæ, 2 . 8.

Habitat, Mexico (Du Bus).

Figured, Esq. Orn. pl. 14, ♀. M. Du Bus describes and figures only the ♀. A pair of this beautiful species, in the British Museum, were collected by De Lattre. They are numbered (1843) 6, 13, 27 ♂, — 28 ♀.

B.—SERRIROSTRES.

21. EUPHONIA SERRIROSTRIS, D'Orb. and Lafr.

Euphonia serrirostris, *D'Orb.* and *Lafr.* Mag. de Zool. 1839, p. 30.

Euphonia suprà olivacea, cæruleo-griseo parum micans; fronte usque ad verticem flavâ; remigibus nigro-olivaceo limbatis; rectricibus nigris, olivaceo marginatis; tribus literalibus maculâ magnâ albâ intùs versus apicem notatis; subtùs aureo-flava; collo olivaceo; maxillâ quatuor minutis dentibus instructâ (*D' Orb.*)

Habitat, Bolivia; Guarayos, Santa Cruz (D'Orb.)

Figured, D'Orb. Voy. pl. 23, fig. 2.

(Non vidi).

The true position of this species seems rather uncertain.

SECTIO III^tia^ *PYRRHOPHONIÆ.*

---

22. EUPHONIA JAMAICÆ (LINN.)

Fringilla jamaica, *Linn.* Syst. Nat. i. p. 323.——Euphonia jamaica, *Gosse* Birds, Jamaica, p. 238.

♂ Suprà schistaceo-cærulea, uropygio viridi tincto; gutture pectore et lateribus pallidè griseis; ventre flavo, crisso albido *(Gosse).*

♀ Mari similis, sed tectricibus caudæ superioribus cum tibiis flavescenti-viridibus, ventre flavo carens.

Habitat, Jamaica (Gosse).

Figured, Gosse's Illust. Orn. Jam. pl. No. 59. ♂ and ♀.

23. EUPHONIA CINEREA (LAFR.)

Euphonia cinerea, *Lafr.* Rev. Zool. 1846, p. 277.

E. tota grisea, suprà colore pallidè thalassino micans; remigibus fuscis, griseo-albo tenuissimè marginatis; subtùs dilutior, cinerascens; medio abdomine crissoque lateribus pallidè citrinis; crisso et subcaudalibus pallidè ochraceis; caudâ brevissimâ; rostro forti, alto, suprà subtùsque incurvo; maxillâ propè apicem utrinque serratâ; mandibulâ altâ, valdè sursùm recurvâ (Lafr.)

Habitat, Columbia (Lafr.)

(Non vidi).

I have inserted, in what seems to me to be their proper places, all the synonymes that apparently represent real species; I now add an account of such names as I cannot at present identify with certainty.

(1.) *Euphonia olivacea*, Desm. Tan. pl. 27.

E. suprà olivacea, subtùs flavescens, ventre subgriseo.

Long. 3 pouces.

Habitat, Cayenne (Desm.)

This description seems to agree very well with

(2). *Euphonia minuta*, Schomb. Reise n. Guiana, iii. 671, which M. Cabanis describes as follows — " Very like *E. minuta* ♀, but considerably smaller. The yellow-green of the upper surface is somewhat lighter, while the yellow on the front is entirely wanting. Throat, middle of the belly, and under tail-coverts white-gray. Upper mandible with three indentations near the tip." This may be a good species, but I have some idea that both descriptions may be intended for *E. strictifrons*, Strickl. ♀, which would be like *E. chlorotica*, ♀, but smaller; but as I have never seen the ♀ of this species I cannot speak confidently on the subject.

(3.) *Euphonia affinis*, Lesson, Rev. Zool. 1842, p. 175.

E. capitis dimidio, thorace, abdomine tectricibusque inferioribus aureis; sincipite, collo, gulâ, dorso, alis, caudâque cyaneis violaceo tinctis; alis totis nigerrimis; rostro nigro; pedibus rufis.

Habitat, Realejo, in Nicaragua.

Mr. Strickland has made some observations on this description, which, as he says, is probably intended for a species affine to *E. chlorotica*, but distinguished by its Nicaraguan habitat and red legs. Is it *Euphonia hirundinacea*, Bp.?? *Tanagræ desmaresti*, *chlorocyanea*, *tephrocephala*, Vieill. Nov. Dict. d'H. N. vol. xxxii., I cannot make any thing of. Mr. Gray refers them to this genus. Are the types still existing in the museum of the Jardin des Plantes at Paris??

ORNITHOLOGICAL OBSERVATIONS

By PHILIP LUTLEY SCLATER.

I. REMARKS ON PRINCE CANINO'S NOTE, "SUR LES TANGARAS,"

In the Revue et Magazine de Zoologie, March and April 1851.

I HAVE just seen a copy of a paper, extracted from the *Revue de Zoologie*, for March of this year, which bears the title above given. Having paid much attention to the *Tanagers*, I have drawn up a few observations to correct what appear to me to be some of the chief errors in the synonomy of the paper, and to show how far the new species therein described are identical with those named by Mr. Strickland and myself in the last number of "Contributions." If the *Revue Zoologique*, No. III., for this year, was really published in March, or before the end of April, Prince Canino's names have undoubtedly the priority over Mr. Strickland's and my own, which were not published until April, in Part II. of the Contributions for this year. But certainly only one Number of the *Revue* has yet been received in this country, viz.—that for January last. I should mention, that in a box of *Tanagers*, sent lately by M. Verreaux of Paris to Mr. E. Wilson, are examples of several of Prince Canino's new species, and I have had thus, through Mr. Wilson's kindness, an opportunity of comparing them with my own specimens.

OXFORD, *May* 12, 1851.

P. 3. As *Chlorochrysa* has been already published and adopted as a generic name (See *Compt. Rend.*, Jan. 20, 1851, p. 76) for these two species, it cannot now be changed into *Calliparæa*. It is, moreover, an objectionable practice to change specific names into generic in this way, as it renders the use of the oldest specific name impossible. Figures of both species of *Chlorochrysa* are given in this year's Contributions, pl. lxxiii.

P. 8. *Tanagra melanota.*—This name is more correctly written *melanonota*, as it was originally published by Vieillot, Nov. Dict. d'Hist. Nat. xxxii. p. 407.

P. 10. *Euphonia rufiventris.*—Lately figured by Mr. Strickland as *E. bicolor*, Cont. Orn. 1850, pl. xlix. p. 10. *E. chrysogastra*, Cuv., is a synonyme of *E. nigricollis*, Vieill., and not of this species.

P. 10. *E. brevirostris*, Bp., is *E. xanthogastra*, Sund. Sv. Ac. 1833, t. x. fig. 1.

P. 10. *E. pumila* Bp. = *E. strictifrons*, Strickl. Cont. Orn. 1851, p. 72.

P. 11. *E. ænea*, "*chalybea*," Mikan, is the oldest synonyme of this bird.

P. $\frac{11}{12}$. *E. umbilicalis*, Less., is the female of *E. pectoralis* (Lath.)

P. 12. *Chlorophonia* had better have been written *Chloreuphonia*. The name *Euphonia* was originally a translation of Buffon's name, *L'Organiste*, and means "*beautiful-voiced.*" It is rather absurd to call a bird "*green-voiced*," which *Chlorophonia* means. The same thing may be observed of *Cyanophonia*; but although *Chlorophonia* has a slightly different structure from *Euphonia*, there appears nothing of the sort as regards *Cyanophonia*, except that it has a blue head. Besides, if the groups were separated, the name *Euphonia* must be kept for the blue-headed group, since *E. musica* is the type of Desmarest's genus *Euphonia*.

P. 13. The third species of blue-headed *Euphonia*, *Pipra elegantissima*, Bp., is here omitted, and the bird described as *C. musica* ♀, is no other than *C. nigricollis* ♀.

P. 13. *Calliste* must be reserved for the group that contains *Tanagra tricolor*, Linn., that being the type given by Boié, when he established the genus. For those who consider this group, which I have called "*Callistæ flavæ*," to require a separate generic appellation, I propose the name *Euschemon*. 1. *Calliste vitriolina*, Bp., is my *C. ruficapilla*, No. 31, in the synopsis of the genus, Orn. Cont. p. 61. Lichtenstein never published this species as "*vitriolina*," and cannot therefore be the authority for the name. 4. *C. peru-*

viana — I believe *T. gyrola* of Prince Maximilian, to be distinct from Desmarest's *Tanagra peruviana*, and have named it *Calliste castanonota*, Orn. Cont. 1851, p. 63.

P. 16. *Tatao cæruleocephalus*, Bp. — This bird certainly belongs to the *Chalcothraupis* group; it is very nearly allied to *Calliste thalassina*, Strickland.

P. 17. *Chrysothraupis frugilegus* (Tsch.), I believe is merely the young of *Tanagra striata* (Gmel.)

P. 17. *Ixothraupis chrysogaster* is the same as *Calliste xanthogastra*, Orn. Cont. 1851, part i. p. 23. This name has, I suppose, the priority over the Prince Canino's, as he quotes the figure of *C. chrysophrys* in the Contributions, which was published along with it, under the head of the previous species.

P. 18. *Ixothraupis pusilla*, Bp. = *C. virescens* mihi loco suprà citato. Is Spix's *Tanagra graminea*, pl. 53, fig. 2, intended for the female of this species?

P. 18. *Chalcothraupis* must sink into a synonyme of *Procnopis*, since it contains *P. argentea*, which is the type species of the genus *Procnopis*. *C. ruficervix*, Bp., is *Call. leucotis* mihi nec *Tanagra ruficervix*, Fl. Prev.

P. 19. *Callospiza* cannot be used in this sense, being coequal with *Calliste*. I propose in its place, for those who think the group worthy of a generic appellation, the term *Euprepiste*.

P. 20. *C. cayanensis*, Bp., is, I believe, merely the ♀ of the succeeding species.

I append a list of the nine genera (so-called) into which *Calliste* has now been divided —

1. *Tatao*, Bp., 1851 = *Aglaia* (Sw.) Reich.
    T. paradisea (Sw.)
2. *Calliste*, Boié, 1826 = *Callospiza*, G. R. Gray.
    C. tricolor (Gm.)
3. *Chrysothraupis*, Bp. 1851.
    C. aurulenta, Bp.
4. *Ixothraupis*, Bp. 1851.
    T. punctata, Linn.
5. *Procnopis*, Cab. 1850. *Chalcothranpis*, Bp. 1851.
    P. atrocærulea, Cab.
6. *Euschemon*, Sclater (1851) = *Calliste*, Bp.
    E. flava (Gmel.)

7. *Gyrola*, Bp. 1851.
    G. chrysoptera, Sw.
8. *Euprepiste*, Sclater (1851). *Callospiza*, Bp.
    E. braziliensis (Linn.)
9. *Pipridea*, Sw. (1827). *Procnopis*, Bp. nec Cab.
    P. melanonota (Vieill.)

In the last division, there is considerable difference in form, and I believe it to be a good genus. It was with much hesitation I previously included the type species in the genus *Calliste*. My *Calliste castaneoventris* will be a second species of the group. *C. vassori* goes better, I think, with *C. argentea, atricapilla*, &c.

P. 21. I will not now enter into the oft vexed and very difficult question as to the correct names of the three Bishop Tanagers, but it is a great error to suppose that *T. olivascens* of Licht. is the ♀ of *T. ornata*, Sparm., the yellow-shouldered species. Prince Maximilian, in his Beitrage z. Nat., gives descriptions of the ♂s and ♀s of both species. *Tanagra palmarum*, Pr. Max. (1821) = *T. olivascens*, Licht. (1823), is a widely distributed species, rather variable. I have examples from Rio de Janeiro, Para, Cayenne, and Trinidad. The other, *T. ornata*, Sparm. (1787) = *T. archiepiscopus*, Desm. (1805), is from Brazil only.

P. 22. *Dubusia gigas*, that is *Tanagra montana* from Bogota, Bp., has been well figured and described by Sir W. Jardine, Ill. Orn. pl. xliii. (1841) as *Tanagra cucullata*. A skin of M. Verreaux's, so marked, I can hardly distinguish from *Tanagra eximia*, Boiss, p. 25. *Comarophagus* is a synonymic genus to *Tachyphonus*, the type being *T. leucopterus*, and cannot be used in any other sense.

P. 29. *Tanagra dominica*, Gm., is the true type of the genus *Dulus*, Vieill., and not *Turdus palmarum*. See Mr. Strickland's observations on this subject in the present number of Contributions.

II.—ON THE GENUS *TANAGRELLA*, SWAINSON.

THE genus *Tanagrella* (changed by M. Cabanis into *Hypothlypis)*, contains, as far as I am aware of, only the three species hereafter mentioned, the two first of which have been much confounded together. The *Motacilla campestris* of Linnæus (= *Tanagra ruficollis*, Gmelin = *Tachyphonus rufigularis*, Laf. = *Neornis cærulea*, Hartlaub) has been lately added to the genus, but it seems to be more nearly allied to the genus *Loxigilla*, Lesson (= *Pyrrhulagra*, Bp., Consp. Av. p. 492) of which the type is *Loxigilla noctis* = *Fringilla noctis*, Linn. *Tanagrella rufigula*, Bp., Compt. Rend. Ac. Sc. Paris, 1851, p. 76, I consider to be closely allied to *Calliste punctata* (Linn.), and to be more correctly placed in that genus.

1. TANAGRELLA VELIA (LINN.)

Motacilla velia, ***Linn.*** **Syst. Nat. i. p. 336.——Tanagra varia,** ***Steph.*** **Zool. xiv. p. 7.——Tanagra iridina,** ***Hartlaub,*** **Rev. Zool. 1841, p. 305.——Tanagrella iridina,** ***Gray's*** **Gen. p. 366.——Tanagrella velia,** ***Bp.*** **Consp. Av. p. 236.**

TANAGRELLA suprà nigra; fronte, gulâ lateribusque capitis cum alarum rectricumque marginibus cæruleis; dorso postico aureo-viridi; subtùs purpureo-cærulea, ventre medio crissoque castaneis.

Long. tota, 4 . 8; alæ, 2 . 8.

Habitat, Cayenne and Demerara.

Figured, Edward's Pl. 22; Desm. Tan. pl. 2.

2. TANAGRELLA CYANOMELAS (PR. MAX.)

Sylvia surinamensis cærulea, ***Briss.*** **Orn. iii. 536.——Tanagra cyanomelas,** ***Pr. Max.*** **Beit. z. Nat. ii. 453.——Tanagra multicolor,** ***Sw.*** **An. in Mem., p. 313.——Tanagrella velia,** ***Gray's*** **Gen. p. 366.——Tanagrella cyanomelas,** ***Bp.*** **Consp. Av. p. 236.**

TANAGRELLA suprâ nigra; fronte, gulâ, et regione auriculari, cum tectricibus alarum minoribus et marginibus rectricum remigumque cæruleis; vittâ super-frontali dorsoque postico aureo-viridibus; subtùs cano-cærulea; ventre medio crissoque castaneis.

Long. tota, 5̇ . 7̈ ; alæ, 3̇ . 0̈.

Habitat, Brazil, Bahia (Swains.); River Ilheos, near Rio de Janeiro (Pr. Max.)

Figured, Pl. Enl. 669, fig. 3.

This species may be immediately distinguished from the preceding, by its frontal spot of golden green and light azure colouring of the breast, which in *T. velia* is purple blue.

3. TANAGRELLA CALOPHRYS (Cabanis).

Plate LXXIV.

Hypothlypis calophrys, *Cab.* Schomb. Reise iii. p. 668.—— Tanagrella calophrys, *Bp.* Compt. Rend. 1851, p. 76.

Tanagrella suprà atra, primariis tertiariisque alarum rectricibusque cæruleo limbatis; tectricibus alarum minoribus omninò cæruleis; dorso inferiore et vittâ trans caput utrinque ad imam cervicem ductâ nitidè aureo-viridibus; infrà cærulea; tectricibus caudæ inferioribus crissoque cum rostro pedibusque atris.

Long. tota, 5̇ . 6̈ ; alæ, 3̇ . 0̈.

Habitat, Rio Negro and Rio Napo.

This species was first described by M. Cabanis, as above quoted in a note to Sir R. Schomburgk's Reise nach Guiana. The specimen here figured, was received by M. Verreaux from the Rio Negro, and is the property of Mr. Edward Wilson, to whom I am much obliged for the loan of it. M. Bourcier, on his recent return from Ecuador, brought a single skin of this bird, which he obtained from the Indians on the river Napo, an upper branch of the Amazon, where it was said to be rare. It may be distinguished from the two previous species, by the protracted superciliary stripe and absence of the chestnut red of the vent and stomach.

III.—ON THE GENUS *CHLOROCHRYSA*, Bp.

THIS genus was formed by the Prince of Canino in a paper in the Comptes Rendus, for Jan. 20 of the present year, for the reception of the two birds figured in the accompanying plate. They agree in the form of the beak with *Tanagrella*, but are slightly more tenuirostral (as a Quinarian would say) than even that form. The tail is much shorter than in *Tanagrella;* the lateral toes are equal as in that genus; the nostrils are almost entirely concealed by the frontal plumes, which is only partly the case in *Tanagrella*. The wings are rather long, the first four quills being nearly equal, the second or third rather the longest. The plumage is of the most brilliant glossy green that can be conceived, yet without metallic reflections, and must render them a rare ornament to those hot tropical valleys of the republics of Ecuador, New Granada, and Peru, where the only two species at present known have been found.

1. CHLOROCHRYSA CALLIPARÆA (Tschudi).

PLATE LXXIII. FIG. 1, Upper Figure.

Callospiza calliparæa, *Tschudi*, Wiegm. Arch. 1844, p. 286., and Faun. Per. p. 202. ——Calliste calliparæa, *Gray's* Gen. App. p. 17.——Calliste bourcieri, *Bon.* in Compt. Rend. 1851, p. 76.——Calliparæa bourcieri, *Bp.* Note, s. l. Tang. p. 3.

CHLOROCHRYSA lætissimè viridis; regione oculari, dorso inferiore, tectricibus caudæ ultimis, et ventre cærules-centibus; pennis caudâque nigris eodem viridi limbatis; vertice et tectricibus caudæ proximis croceis; regione auriculari castanea; gulâ, rostro pedibusque nigris.

Long. tota, 4̇.6̈.; alæ, 2̇.8̈.; caudæ, 2̇.

Bright green; round the eyes, lower back, distal tail-covers, and abdomen, tinged with blue; wings and tail black, margined with the same green; vertical spot and proximal tail-covers saffron; ear-coverts chestnut; throat, feet, and bill, black.

Whole length, 4̇.6̈; wing, 2̇.8̈; tail, 2̇.

Habitat, Wood-region of North and Middle Peru (Tschudi); Valley of Baños near Tungaragua, Cisandean Ecuador (Bourcier); Anolaima, New Granada (Chapoul).

The present species was first described by Dr. Tschudi, who states that he found the species of the genus *Callospiza*, among which he included this, only in the hot Wood-region of North and Middle Peru, on the highest trees. M. Parzudaki sent specimens to London last year, which were brought from New Granada by a M. Chapoul, ticketed "*Aglaia chapoul*," one of which is the specimen here figured; being the property of Mr. Edward Wilson, who has kindly allowed me to examine and describe specimens of both the rare species of this genus, besides many others, preparatory to their again crossing the Atlantic to their final destination in the Philadelphian Museum. The Prince of Canino does not seem to have been aware of these facts, for he described a single skin of this species, brought home by M. Bourcier from Ecuador as new, and dedicated it to that gentleman as *Calliste bourcieri*, a compliment which I regret the stern laws of priority forbid me to continue.

2. CHLOROCHRYSA PHÆNICOTIS, Bp.

Plate LXXIII. Fig. 2, Under Figure.

Calliste phænicotis, *Bon.* Compt. Rend. 1851, p. 76.

Chlorochrysa splendidè viridis; alis caudâque nigris eodem viridi limbatis; tectricibus alarum minoribus, tibiis, et maculâ alterâ suboculo, alterâ pone oculum sericeo-argenteo-brunneâ; hâc corallino-rubro versùs nucham terminatâ; rostro pedibusque nigris.

Long. tota, $\dot{4}.\ddot{5}$; alæ, $\dot{2}.\ddot{9}$; caudæ, $\dot{1}.\ddot{7}$.

Splendid leek-green; wings and tail black, margined with the same; lesser wing-covers, thighs, subocular spot, and spot behind the eyes olive-brown, with a silvery gloss; this latter terminated towards the nape with a coral-red spot; feet and bill black.

Whole length, $\dot{4}.\ddot{5}$; wing, $\dot{2}.\ddot{9}$; tail, $\dot{1}.\ddot{7}$.

Habitat, "La ville et bois chauds de Nanegan" (Bourcier), Irdrisandean Ecuador, north of Quito.

BY PHILIP LUTLEY SCLATER.

This splendid species was one of the novelties brought by M. Bourcier from the republic of Ecuador. The Prince of Canino, in his description of it, does not allude to the very peculiar colour of the lesser wing-covers, thighs, and ocular spots, which it is very difficult to convey an idea of by description. Mr. Wilson's two specimens, and that in the Paris National collection, are, I believe, the only individuals of the species in Europe.

ORNITHOLOGICAL OBSERVATIONS

By PHILIP LUTLEY SCLATER.

IV.—ON THE GENUS *DACNIS*, Cuvier,

WITH DESCRIPTION OF A NEW SPECIES.

THE genus *Dacnis* forms a connecting link between *Cæreba* and *Conirostrum*, which with *Certhiola* are the only genera included by Mr. Gray in his sub-family *Cærebinæ*. To these I think must be added the genus *Diglossa*, as it appears more naturally placed here than among the *Anabatinæ*. M. De Lafresnaye observes, that these birds being furnished, like the *Cærebinæ*, with a bifid filamentous tongue, and feet in all respects similar to them, and being in the habit, according to M. D'Orbigny's observations, of hanging about the twigs of trees to extract the insects from the pollen of the flowers, it appears indispensable to him to arrange them as true *Cærebinæ*, and he expresses much astonishment at Mr. Gray's continuing to place them along with *Anabates* and the allied genera.

Of the ten species given under the head of *Cæreba* by Mr. Gray, I believe seven to be merely nominal, which will leave only three good species in this genus. These are *Cæreba cærulea* and *cyanea*, the two common universally known "black and blue creepers,"* as they are generally called, and M. Hartlaub's *Cæreba nitida*, figured in last year's Contributions, pl. 66, fig. 1, which is the only other I am acquainted with. The species of *Dacnis* may be arranged as follows:—

---

* From the following passage in Edwards' "Voyage up the river Amazon" (Murray's Home and Colonial Library), it would appear that the Linnæan writers who called these birds *Certhiæ* have some grounds to go upon.

"The tree-creepers were a more eagerly sought family, and two beautiful little species are quite common in the vicinity of Pará. One of these is of a deep indigo blue, with a black throat, *Certhia cærulea*; the other, *C. cayana*, is conspicuous for the brilliant ultramarine blue that caps his head; otherwise he is marked with blue and black and yellow. These little things are usually seen running up and down the tree trunks, or flitting hurriedly from branch to branch, busied in searching for insects upon the bark. They are extremely familiar and allow of near approach. At intervals they emit slight whispering notes, but their anxious haste leaves one with the impression that they might do themselves much more credit as songsters at their leisure. We never fell in with these species up the river, their place there being supplied by other varieties." Pp. 57–8.

1. DACNIS CAYANA (LINN.) STRICKLAND.

Motacilla cayana, *Linn.* Syst. Nat. i. 336.—— Motacilla cyanocephala, *Gm.* Syst. Nat. i. 990.—— Fringilla cyanomelas, *Gm.* Syst. Nat. i. 924.—— Certhia spiza var. γ *Gm.* Syst. Nat. i. 476 (♀)—— Nectarinia bicolor, *Becklemichew,* Nouv. Mem. Soc. Mosc. i. p. 378.—— Cæreba cærulea, *Max.* Beitr. z. Nat. ii. 766.—— Dacnis cyanater, *Lesson.* Tr. d'Orn. 458.—— Dacnis cayana, *Strickl.* Cont. Orn. 1851, p. 15.

♂ Thalassino-cyanea; fronte, gutture, mento, dorso summo, alis caudâque nigris; alis thalassino-cæruleo marginatis; rostro nigro mandibulâ inferiore basi cum pedibus leviter brunneis.

Long. tota, 4̇ . 7̈; alæ, 2̇ . 4̈½.

♀ Leviter viridis; capite summo humerisque cærulescentibus, gutture cinereo-albescente.

Habitat, Trinidad, Cayenne, British Guiana (Schomb.); Brazil, Rio de Janeiro (Pr. Max.); Peru, east wood region (Tsch.); Bolivia, Chiquitos (D'Orb.)

Figured, Pl. Enl. 669, fig. 1 ♂, and 578, fig. 1 ♀; Edwards, t. 25, fig. 2 ♀; Nouv. Mem. Soc. Mosc., 1828, pl. 23, ♂; Zool. Ill. ser. i. pl. 117, ♂.

2. DACNIS CÆREBICOLOR, SCLATER, SP. NOV.

♂ Indigotino-cærulea; loris, gutture, mento, dorso summo, alis caudâque nigris; tectricibus et secondariis strictè cæruleo marginatis; rostro nigro; mandibulâ inferiore basi cum pedibus carneis.

Long. tota, 4̇ . 7̈; alæ, 2̇ . 7̈.

Habitat, New Granada?

This new species offers a striking resemblance to the last in the distribution of its colours, but the thalassine-blue is replaced by a dark indigo, the same as in the species of the genus *Cæreba*, whence I have named it *cærebicolor*. The straighter form of the beak and slightly lengthened tail, shows a decided approach to *Conirostrum*.

of which genus M. De Lafresnaye's *C. atro-cyaneum* seems to have much resemblance to it. But in that bird the whole under surface is black; and I think the present species can hardly be separated from the type of the genus *Dacnis*, to which it shows so much resemblance. My specimen was purchased of Mr. Argent, and I have seen similar ones in Mr. Warwick's collection.

3. DACNIS ANGELICA, De Filippi.

Sylvia cayana, γ *Lath.* Ind. Orn. p. 546.—Sylvia cayana, *Vieill.* Gal. Ois. pl. 165. Dacnis cayana, *D'Orb.* and *Lafr.* Mag. de Zool. 1837, p. 20; *Tschudi*, Faun. Per. p. 37; *Schomb.* Reise n. Guian. iii. 675; *Bp.* Consp. Av. p. 400, No. 1.—Dacnis angelica, *De Filippi*, cat. Mus. Mediol., 1844; *Bp.* Consp. p. 400, No. 3. —Dacnis melanotis, *Strickl.* Cont. Orn. 1851, p. 16.

♂ Turcoso-cærulea; fronte, lateribus capitis cervicisque, dorso summo, alis caudâque velutino-nigris; scapularibus margine cæruleis; abdomine medio crissoque niveis; rostro pedibusque nigris.

Long. tota, 4̇ . 0̈; alæ, 2̇ . 3̈.

♀ Suprà brunneo-cinerea, olivaceo parum tincta, alis caudâque obscurioribus; infra albescenti-cinerea.

Habitat, New Granada, Cayenne, Guiana (Schomb.); Yuracares, Bolivia (D'Orb.)

Figured, Pl. Enl. 669, fig. 2.; Vieill. Gal. Ois. pl. 165.

M. Lesson first clearly distinguished the present bird from the first species of the genus, with which it was confounded by the older writers, but he unfortunately considered this the true *cayana* of Linnæus, and named the other afresh "*Dacnis cyanater.*" The Prince of Canino quotes De Filippi as an authority for the name "*angelica*," under which this species is well described in the Conspectus Generum Avium. I have never seen the work from which this description is copied, but I understand it is a Catalogue of the Milan Museum, published in 1844. He does not however seem to have been aware that it is identical with that figured in the Pl. Enl. 669, fig. 2; and Galerie des Oiseaux, t. 165, to which he attaches the name "*cayana.*" It may be distinguished from the two preceding by its white belly, and crissum and black ear-coverts, as well as by the splendid turquoise blue of the plumage, which in the New Granadian specimens has a slightly brighter tinge than in those from Cayenne.

4. DACNIS ATRICAPILLA (Vieill.)

?? Certhia spiza, *Linn.* Syst. Nat. i. p. 186.——Certhia spiza var. β. *Gm.* Syst. Nat. i. 476 (♂)——Certhia spiza var. γ *Gm.* Syst. Nat. i. 476 (♀)——Cæreba atricapilla, *Vieill.* N. D. d'H. N. xiv. p. 50.——Nectarinia mitrata, *Licht.* Verz. d. Doubl. p. 15.——Cæreba melanocephala, *Vieill.* Max. Beit. z. Nat. p. 771.——Cæreba spiza, *Max.* Beit. z. Nat. p. 771.——Dacnis spiza, *Tsch.* Fauna Per. p. 37. Dacnis atricapilla, *Gray's* Gen.

♂ D. splendidè viridis; ventre in cærulescens trahente; remigibus rectricibusque nigris viridi limbatis; capite, nuchâ regioneque auriculari atris; mandibulâ inferiore flavâ, superiore pedibusque nigris.

Long. tota, 4 . 0; alæ, 2 . 8½.

♀ Omnino viridis; gulâ aliquot flavescente; alis caudâque fuscis viridi marginatis.

Habitat, Yuracares, Bolivia (D'Orb.); Brazil, Villa Viçoza on river Peruhype (Max.); British Guiana (Schomb.); Cayenne: Trinidad.

This is certainly Gmelins' *Certhia spiza*, var. β, and probably *Certhia spiza* of Linnæus, in which case it should stand as *Dacnis spiza* (Linn.) But Seba's figure (Thesaurus, ii. pl. 3, fig. 4), which is the origin of Linnæus' *Certhia spiza*, makes the throat black, and may be intended for some other bird, though from his worthlessness as an authority it is not unlikely to be meant for the present. In the lengthened and curved form of the beak, the present species approaches to the genus *Cæreba*.

5. DACNIS FLAVIVENTER, D'Orb. and Lafr.

Dacnis flaviventris, *D'Orb.* and *Lafr.* Mag. de Zool. 1837, p. 21.

♂ Lætè flava; fronte, gulâ, lateribus capitis, dorso superiore, alis caudâque nigris; capite summo nuchâque lætè viridibus.

Long. tota, 4 . 6; alæ, 2 . 5.

♀ Suprà obscurè viridescens; infra griseo-brunneo variata; alis caudâque brunneis pallidiore limbatis.

Hab. Bolivia, Yuracares (D'Orb.); Barra do Rio Negro (Wallace.)

Figured, Voy. de l'Amér. Mér. pl. xiii. fig. 2.

The only specimens I have seen of this beautiful species, were sent by Messrs. Hawkshead and Wallace, from Barra on the Amazon.

6. DACNIS ANALIS, D'ORB. AND LAFR.

Dacnis analis, *D'Orb.* and *Lafr.* Mag. de Zool, 1837, p. 21.

Dacnis suprà obscure cærulescens, infrà albicanti-grisea; ventre medio albido; ano tectricibusque caudæ inferioribus vividè rubris; remigibus rectricibusque nigris pallido cæruleo marginatis (D'Orb.)

Habitat, Bolivia, Chiquitos (D'Orb.)

Figura nulla! *(non vidi)*.

APPENDIX.

Dacnis braziliana, Gray, No. 3; Bp. No. 6, formed from *Certhia braziliana*, Gm., which depends on Brisson's "*Certhia braziliensis violacea*," Orn. iii. p. 661, of which he gives the following description:—Certhia nigra; vertice viridi-aureo; gutture splendidè violaceo; pectore castaneo-purpurascente; dorso infimo et uropygio ex violaceo ad chalybis politi colorem vergentibus; rectricibus nigris oris exterioribus violaceo-chalybeis.—Calendulam crassitiê non excedit. The description was taken from a bird that was in the collection of M. de Reaumur, received from Brazil. I can make nothing of it!

Dacnis rufo-cinerea, Bp. Consp. Gen. Av. p. 401, seems to be identical with a bird described by M. De Lafresnaye in the Magasin de Zoologie for 1843, which he considers probably the female of his *Conirostrum sitticolor*. Should this however not be the case, he proposes the name "*rufum*," which will have long precedence over the Prince of Canino's appellation. I have specimens of this bird, and it is certainly a very close ally of the *C. sitticolor*, of which a figure is given in Gray's Genera, pl. 34, but still I think distinct from that species, and will therefore stand next to it as *Conirostrum rufum*, De Lafr., making a seventh of the genus, of which the other six species are correctly enumerated in the Prince of Canino's Conspectus, page 401.

Latham, Gen. Syn. Supp., p. 108, describes a bird afterwards named by him, Ind. Orn., p. 558, *Sylvia plumbea*, as follows:—

Size small; length 3¾; bill short, dusky brown; plumage above deep lead colour, nearly black, beneath pale ash colour; quills and tail dusky; legs deep brown; native place uncertain.

This has been identified by M. Cabanis with a bird found by M. Tschudi on the coast and wood-region of Peru, and formed into a "*Dacnis plumbea*," Faun. Per. pp. 37, 236. He gives the following description of it:—Head bluish-gray; back and upper wing-coverts bright gray-blue; remiges black-brown, on the outer barb, with an olive-green on the base of the inner barb with a broad white border; rectrices the same, without the white border on the inner barb; chin and breast bright whitish-gray; the under parts greenish-gray; middle of belly and crissum yellowish-white.

This bird I have never seen.

1*st August*, 1851.

ORNITHOLOGICAL OBSERVATIONS.

V.—ON A NEW SPECIES OF *MANAKIN*

By PHILIP LUTLEY SCLATER.

Pipra flavicollis.

Mr. Wallace has lately sent home, from the Upper Amazon, several specimens of a Manakin, closely allied to *Pipra aureola* Linn., of Cayenne, but sufficiently different I think from that bird, to allow of their specific separation. Instead of the mere traces of yellowish colouring, found on the front and upper throat of the Cayenne species, the present bird has a broad frontal band, and the whole of the throat and neck of a pale lemon yellow, which extends back under the eyes some way round the sides of the neck. There is also a white spot on the middle of each of the external rectrices, which is not to be found in the Cayenne bird. In other respects, they resemble one another very closely. I propose to call this species

PIPRA FLAVICOLLIS, Sclater.

P. atra: capite toto, cervice, pectore medioque ventre coccineis: fronte guttureque flavis: tectricibus subalaribus flaves centibus: remigibus intùs et maculâ mediali rectricis utrinque extimæ albis.

Long. tota, 4̇; alæ, 2̇ . 5̈.

Hab., Barra do Rio Negro.

Pipra fasciata of M. M. D'Orbigny and De la Fresnaye, has much resemblance to the two species above mentioned, but may at once be recognized by the yellow band all across the tail. See D'Orbigny's plate, Voy. dans l' Am. Mèrid. t. xxx. fig. 1. Specimen of all three species are in the British Museum.

Oxford, October 29, 1851.

GNATHODON STRIGIROSTRIS.

SINCE the publication of our figure and description of *Gnathodon* in Taylor's Annals, we have anxiously looked for more information regarding it. Lieutenant J. Murray of H. M. S. Daphne, who visited Navigator's Islands in 1849–50, where he procured for us some very interesting species, was unable to learn any thing regarding it in Upolu; but Mr. Strickland writes us, that a missionary lately returned from these islands, informed him that they were still kept as pets, and that two were offered to him alive shortly before sailing, which he, ignorant of their value declined. The results of the United States exploring expedition, where this bird was said to be originally described, have also been waited for. A single copy without plates, has been obtained by the British Museum, from which Mr. G. R. Gray obligingly made the following extract; but the work itself we have been unable to procure from any London bookseller, though it has been under order for more than eight months. No definite answer is given; but the general opinion is, that the work for some reason or other has been suppressed, in which case being unattainable, the few volumes in circulation cannot be used as any authority for the species which have been described in them as new:—

" *Female* — smaller, more brown; plumage of the head and neck less metallic, but otherwise like the male.

" *Young* — covered with a sepia coloured down; bill yellow, and have a remarkably wide gape; the lower mandible being so much wider than the upper as to cover it, excepting the hook.

" This bird formerly abounded at the *Island of Upolu* one of the Samoan Islands, but now it is considered a rare species by the natives, and one which will be entirely destroyed in the course of a few years if the same causes exist which are now operating to their destruction. They build their nests and pass most of their time on the ground, and flush like Partridges or Grouse with a whirring sound produced by their wings. Their food is mostly fruit, including a species of fig, growing in the mountainous regions which they inhabit. The tree called Owa by the natives *(Ficus prolixa?* of botanists), producing the fig, is represented on our plate with the bird. It forms a remarkable feature in the Samoan scenery; its broad and ample branches spreading like umbrellas above all the other forest trees, many of which are gigantic, although covered in a measure by these enormous canopies. The trunks of Owa trees are little forests in themselves; the one from which our sketch was made measured 102 feet in diameter, and about the same from the ground to the main branches.

"The natives of the Samoan Islands, who spend much of their time indolently, are fond of pets, which are mostly pigeons or doves, their islands not affording suitable quadrupeds. A few years since a passion arose for cats, and they were obtained by all possible means from the whale ships visiting the islands, were much esteemed for a while until the other pets were devoured by them; after which Pussy (a name generally adopted by the Polynesians for cats), not liking yams and taro, the principal food of the islanders, preferred *Manu-mea*, and took to the mountains in pursuit of them. There the cats have multiplied and become wild, and live upon our *Didunculus* or little Dodo, the *Manu-mea* of the natives, which it is believed will in a very few years cease to be known, excepting by the miserable fragments now deposited in the national museum in the city of Washington, unless some more lucky collectors get them better than we did. They are however more perfect than the remains of the Great Dodo *(Didus ineptus* of Linnæus), which are preserved in the Ashmolean and British Museums. We were enabled by great labour to obtain three specimens, one of which was lost by the wreck of our ship; the other two, deposited as stated, are male and female, but badly preserved. At Tahiti the Garnet-winged Pigeon *(Columba erythroptera* of Latham) was said to abound; they have in like manner been destroyed by cats, introduced by early navigators and since become wild, though retaining their varied colours like those domesticated.

"The pigeons or doves are now almost unknown, and the cats are driven to the necessity of feeding on lizards."—*Wilkes' United States Explor. Exped.* Vol. viii. p. 211.

SCYTALOPUS, Gould, 1836.

At a meeting of the Zoological Society in October, 1836, Mr. Gould proposed a new genus of Wrens: "The general contour of form," he remarks, "is that of *Troglodytes*, from which it differs in possessing a shorter stouter and less acutely pointed bill, with an upward inclination instead of being gently incurved as in Troglodytes; the tail is even shorter than in that genus, and consists of decomposed feathers, the whole has a rugged and disunited appearance; and lastly, the tarsi have their posterior aspect regularly banded with narrow scales, instead of having one or two continuous laminæ on that part." Mr. Gould a short time afterwards furnished us with sketches taken from these specimens, from which and his notes we gave figures and descriptions in our "Illustrations of Ornithology" N. S., Plates XIX. and XX., as also the description of a third species from our own collection. The appearance of a figure and description of another species by Ménétries, in the Memoirs of the Academy of St. Petersburg, and the idea entertained that this was identical with one of Mr. Gould's species, has induced us to give impressions from the plates used in the "Illustrations," and to figure the bird described by us there as *S. undulatus*, as well as one which we consider to be the species of Ménétries, specimens of which we lately procured in Liverpool, and from these it will be seen, that the four are all quite distinct from each other. The reproduction of plates already published, we trust, will not be objected to, particularly as there are now no copies of the "Illustrations" for sale, unless such as may accidentally fall into the market, while the Memoirs of the Academy of St. Petersburg are not easily consulted.

Mr. Gould characterized his genus —

"*Bill* shorter than the head, compressed, rather blunt, and slightly recurved; nostrils basal, covered with a membrane. *Wings* very feeble, very concave, very short, rounded; first quill abbreviated, third, fourth, fifth, and sixth of equal length. Tail very short, very graduated (the outer feathers being extremely small), consisting of decomposed feathers. *Tarsi* long and stout, the fore part covered with large scutellæ; the hind part bound round with narrow scales, like the abdominal scales of snakes; hind toe long and rather stout, claw long; middle toe long and slender, and with the other two fore toes furnished with fine nails."

SCYTALOPUS FUSCUS, Gould.

Plate LXXVII.

Scytalopus fuscus, *Gould*, Proc. Zool. Soc. October, 1836, p. 89.——*Jard.* and *Selby*, Illust. of Ornith. N. S. pl. xix.——*Bonap.* Consp. Av. p. 206.——(Bonap. gives as a syn. Malacorhynchus speluncæ? *Ménét.*)

"All the plumage of a uniform sooty black, the head in some specimens having each feather margined with beautiful silvery gray; bill black; feet brown. Total length two inches and three quarters; bill half an inch; wing an inch and seven-eighths; tail an inch and a quarter; tarsi seven-eighths. Habitat, Straits of Magellan, Chili."

SCYTALOPUS ALBOGULARIS, Gould.

Plate LXXVIII.

Scytalopus albogularis, *Gould*, Proc. Zool. Soc. October, 1836, p. 90.——*Jard.* and *Selby*, Illust. of Ornith. N. S. pl. xx.

The Prince of Canino, in his Conspectus Generum Avium, quotes as synonymous with this species, *Myothera indigotina*, Leichtenstein, which we have had no opportunity to verify, and also *Malacorhynchus albiventris* and *indigotinus*, Ménétries. On our next plate we have figured what we consider to be identical with the figure of Ménétries, and both these, we think, are different from the bird which served for our figure in the "Illustrations" of *S. albogularis*. We regret to say, that neither of the original specimens of *S. fuscus* and *albogularis*, which at the time of description formed part of Mr. Gould's private collection, are now accessible, nor can Mr. Gould inform us of their destination, and we cannot too much insist upon the importance it would be to science, if all persons who may figure or describe any species, would not only mark the specimen as typical of any figure or description, but if parting with it, would preserve some memorandum of its purchaser, or the collection to which it may find its way.

Mr. Gould's description of this species was—

"*Crown* of the head bluish-black; shoulders and back ferruginous brown, obscurely marked with narrow transverse lines of black, which bound the edges of each feather. *Tail* uniform pale rufous brown; throat, chest and middle of the belly white; sides of the chest, flanks and under tail-covers light ferruginous, barred with black; upper mandible dark umber brown; under mandible and feet brown. Total length, three inches and three quarters; bill five-eighths of an inch; wing an inch and three quarters; tail an inch and a half; tarsi three quarters of an inch. Habitat, Brazil."

SCYTALOPUS UNDULATUS, JARD. & SELBY.

PLATE LXXVI. FIG. 1.

Scytalopus undulatus, *Jard.* and *Selby,* Illust. of Ornith. in Description of plates xix and xx.

OF this species we gave no figure in the "Illustrations." As there stated, it was procured from the late Mr. Carfrae, a dealer in Edinburgh, and we know nothing of the locality from which it was received. It is very wren-like in form and plumage. *Above*, umber brown, undulated particularly on the rump with black, and the tips of the feathers being paler; wings, with the greater and lesser coverts tipped with yellowish-umber before, a spot of black. *Below*, throat and breast pale indigo; belly, vent, flanks and thighs yellowish-umber; feathers broadly barred with black near the tips. Tarsi and feet pale yellowish-umber. Length, $\dot{3}\,.\,\ddot{7}$; bill to forehead, $\ddot{4}$; wing to first quill, $\dot{1}\,.\,\ddot{9}$; tarsus, $\ddot{8}$.

SCYTALOPUS ALBIVENTRIS, MÉNETRIES.

PLATE LXXVI. FIG. 2.

Malacorhynchus albiventris, *Ménét.* Mem. ac. Petersb.

OUR specimen of this bird we purchased in Liverpool, where we saw a good many examples. *Above*, uniform dark blackish-gray, on the rump and upper tail-covers umber brown, slightly undulated with black and pale tips to the feathers. *Below*, chin, throat, breast and belly white; auriculars and sides of breast gray; flanks and under tail-coverts yellowish-umber, irregularly barred with black; maxilla umber brown; mandible, tarsi, and feet, yellowish-umber.

Entire length, 4̇.7̈; bill to forehead, 4̈; wing to fifth quill, 2̇; tarsi, 8̇.

Inhabits North and South Brazil (auct. Bonap. Consp. G. Av.)

August 7, 1851.

MONOGRAPH

OF

THE OWLS—*STRIGIDÆ*,

By Dr. T. T. KAUP.

As all birds are formed on one and the same *scheme*, so that every one looking at the Humming-Bird and the Ostrich shall at the first view distinguish them as members of one and the same class, so the Owls are formed in a higher degree, on one and the same general typical model, and they make such a natural family, that every one recognises them as parts of one and the same section.

This agreement of the general form constitutes the reason that the Owls, in the suborder *Rapaces*, represent the whole class of birds, like the *Cuculidæ*, *Trochilidæ*, *Hirundinidæ*, *Sterninæ et Columbidæ*, in their orders or suborders.

This similarity makes all these families present a very difficult problem, as well for systematic as for descriptive Ornithology.

The bird, as the second class of the vertebrata, represents the *Ear*, *Respiration* and *Breast-Animals*, and in the same manner do the *Strigidæ* in their suborder, represent the same sense-organ, the same anatomical system, and the same body-region.

They are *Ear-Rapaces*, because we find in them the largest ear with a complete operculum; they are *Respiration-Rapaces*, because they have largely developed lungs and air-sacks, and a very great development of pneumacity of the bones, especially of the head, and they have a far-sounding voice. They are *Breast-Rapaces*, because the breast is prominently developed in comparison with the belly region.

As the sense organ of the *Ear*, as the anatomical system of the *Respiration*, as the body region of the *Breast*, and as the *class* of *birds* take all the second rank, the *Owls must have the second place as a family amongst the first suborder Rapaces*, because they are the manifestations of these organs, or in other words, they are the representants of the true bird type, because they represent the whole class in their suborder.

Their present place as a family, at the end of all the *Rapaces*, is one which it is not possible to justify. The best genera of the *Strigidæ* are formed by Savigny, Cuvier, Duméril, Boie, and Brehm. All the others, made by Wagler, Isidore Geoffroy, Ch. Bonaparte, Lesson, Blyth, Hodgson, want the necessary foundations. They are simple subgenera or nominal genera.

With regard to the subgeneric sections, I have gone further than all my predecessors. I give them particular names, because they have characters which distinguish them as sections of a genus.

I consider the genus *Ulula*, Cuv., as a nominal genus, because the *Syrn. lapponicum* and *nebulosum*, are not different from the subgenus *Syrnium* of the genus *Syrnium*, in which *aluco* is the typical species.

In the same way I must suppress the genus *Ascalaphia*, because I could not find, after the most careful research, any generic or subgeneric characters by which I could distinguish *Bubo ascalaphus* from *B. bengalensis*, *maximus*, *virginianus*, and *africanus*, all of which form my subgenus *Bubo* of the genus *Bubo*.

The same is the case with the genus *Megapelia*, Ch. Bonap. I cannot separate the *M. peli* from the subgenus *Ketupa*, Less., and I mean that *Bubo peli* is the true typical species of the subgenus *Ketupa* and the whole genus *Bubo*.

I must also give the old name *Scops* the preference to the new name *Ephialtes*, because I cannot admit, as a sufficient reason, that Mæhring, in 1752, has given this old name to a genus of the *Gruidæ*, a name which the oldest authors have given to an Owl.

In the Owls, as a whole family, the ear is predominantly developed, as in all the animals which look for their food in the twilight or in the night. We see this fact in my second order of mammalia, which I have called *Mammalia ornithoidea* or *glires*, and which I have composed of the suborders, 1. *Noctugrada* (*lemur*, Linn.), 2. *Chiroptera*, 3. *Marsupialia*, 4. *Insectivora*, 5. *Rodentia*. All these mammalia are, with very few exceptions, twilight or night animals, with very fine hearing but with weak sight.

We see the same among the *Felidæ*, *Foxes*, and distinctly by *Otocyon (canis)*, *lalandi*, which has the longest ears but the weakest sight.

We can say with the greatest certainty, that all the animals which rove in the twilight or night for their food, have a better hearing than sight. This is the case with every night animal which has been discovered up to the present time. When some naturalists say that the Owls have a good sight, they are quite wrong. I mean that the Owls, particularly the Night Owls, make more use of their hearing for catching their prey than of their sight. The lively motions of the mice, their perpetual rustle on the dry leaves, must give the Owls the first notice of the presence of their prey. The eyes, however, may be used at the moment of seizing the prey.

Most of the Owls can be attracted by a good imitation of the voice of the mouse, and in some instances where the hunter was quite still in his position, the Owl has flown to his head. With foxes the case is the same; when the sportsman is placed in the night out of the wind, the fox will come to his very feet.

All the little birds attack the Owls for a longer or shorter time, when they find him out in daylight. Perhaps, however, it is more astonishment at such an unusual form than antipathy. A goat-sucker, thrown among a troop of hens will be attacked by them in the same manner. The antipathy can never depend upon experience, for if an Owl occasionally catches a bird by night, the poor bird expiates the first acquaintance with its life.

In the spring, when the little birds are employed in feeding their young, they come out only a very short time when they see an Owl, and fly away when they have satisfied their curiosity. In the Zoological Gardens in London we may see, in an aviary, some of the *Scops asio* among a great number of other birds, which are so accustomed to it that they never attack it, and in fact take not the least notice of it.

The demeanour of the Crows and Rapaces towards the Owls, is, in comparison with that of the little birds, more an innate antipathy, like that of cats and dogs, dogs and foxes.

All the Owls have a far-sounding voice, howling, jowling, or whizzing,* which they sound very industriously in the breeding season, and which fills the superstitious with anguish and terror.

---

* Nearly all the names of the Owls, as Owl, Eule, Uhu, Auf, Uf (Swed.), Ugu (Turk), Flibou, Flulotte, Ghouette, Chevêche, Strix, Pfynx, Bubo, Aluco, Ulula, &c., are imitations of the voice. This is quite natural, because man more frequently hears than sees these birds.

This is the case not only in civilized Europe but in every part of the world. Their appearance in the neighbourhood of houses is often considered as the prognostic of an early death. The human fancy is always more excited by twilight or night, and the life of all the night animals has always some portion of mysticism, on account of their slow motion and ghost-like flying, their dark colouring and gloomy appearance. It is on this account that men do not like the night animals. The savage and the superstitious kill them if they find them by day-light, and only the civilized man protects them, because the Owls like the *Chiropteres*, catch an immense number of insects and mice, which are enemies to the husbandman.

The family of Owls, as we have already said, is a very natural group, and the beginner in our science has only to see one and he can recognise all the others as members of one and the same family. Latham alone has committed the fault of mistaking a figure of the *Zeraglaux connivens* for a Hawk, which is corrected now by Lord Derby.

All the Owls have a more or less curved bill, always simple, overhanging the lower jaw, and without teeth. The lower jaw is cut off at the end with a tooth-like emargination on each side. The end is more or less ground away by the singular custom of smacking the bill, which some thrushes also do. The cere is never distinguished by its colour. The oval nostrils are mostly placed at the end in the cere, and are covered like the greatest part of the bill, with long bristle-feathers. This, the round head and the large eyes placed in front, give the face a peculiarity, reminding us of the face of the cats, which takes as a family in the suborder *Carnivora*, the same second rank as Ear, Respiration and Breast-Carnivora.

The plumage of the Owls is mostly soft and mostly dark coloured and speckled. The surface of the wings, especially in the true Night Owls, is covered with an extremely soft hairlike felt, so that it is sometimes impossible to recognise the rays. The anterior web of the first wing-feather, and very often the emarginations of the following ones have a comb-like dentilation. The twelve tail-feathers are very often short, and very often curved towards the centre. The tarsus is mostly feathered, very rarely naked or scaled, and is of middle length. The toes are feathered or naked, covered with scales or bristle-feathers; they are very often short and more adapted for catching prey than for running on the ground. The exterior toe can be moved at will from the front to the back. The inner toe is generally as long as the middle toe, and longer than among the *Falconidæ*. The sole of the toes is broad and warty, and the claws are sharp pointed.

In their osteology, the Owls have among the *Rapaces* the peculiarity that the *ossa communicantia* have a third articulation, by which they are connected with a leaf-like protuberance of the *os basilare*. Such a third articulation we find also in the *Caprimulginæ*, *Scolopacidæ*, *Anatidæ*, *Columbidæ*, and in the genera *Ostralegus* and *Hemipodius*.

The bone-covers over the eyes, which we find in the most of the *Falconidæ* are wanting in the Owls, because the cellular lachrymal bones are not so developed and go forwards like a thorn.

The eyes have in the sclerotica a chain with bone links, and one eye is divided from the other by a thick cellular wall, which is very thick in the genus *Strix*.

The soft parts of the Owls have not yet been very accurately compared with the other families of *Rapaces*, and we know only that they have long cœca.

As the representants of the respiration type, their whole respiratory organs ought to be compared with those of the other families of *Rapaces*.

The Owls are spread pretty equally over the whole world. The number in Europe is now 12–13, in Africa 17-18, in Asia near 40, in America 38-40, Australia 10-12.

Some of them, as the *Surnia nyctea* and *ulula* are spread over the northern parts of Europe, Asia and America. *Strix candida* is common to Asia and Africa, and Asia and Australia have the *Strix delicatula*. The *Otus brachyotus* has the most extended range, as we find it in every part of the world except Australia.

As regards the genera, Europe and Africa have the same number, 8.—(1.) *Nyctale*, (2.) *Athene*, (3.) *Surnia*, (4.) *Scops*, (5.) *Otus*, (6.) *Bubo*, (7.) *Strix*, and (8.) *Syrnium*. Asia, and perhaps America, has all these genera, and the two others, *Glaucidium* and *Zeraglaux*. Australia is the poorest country for genera, we have only *Zeraglaux*, *Scops*, and *Strix*.

This review however, like all human works, very much requires correction.

THE LAWS FOR SYSTEMATISING THE TEN GENERA OF OWLS.

WHEN we consider the ten genera of *Strigidæ,* we cannot find more than two subfamilies—*Day Owls* and *Night Owls.*

The *Day Owls—Surninæ,* have some analogies in their whole exterior form with the *Falconinæ* of the *Falconidæ,* Eye, Nerve and Head-Birds, and must be placed at the head of the whole family.

The *Night Owls—Striginæ,* as the true representants of the second family of *Strigidæ,* are the second subfamily, because they manifest, in a very clear way, the Ear, Respiration and Breast-Birds.

The classification of the Owls with and without ear-feathers is too superficial to require refutation. To classify them according to the form of the ears can give only an artificial system, because we find both small and large earholes in the *Surninæ* as well as in the *Striginæ.* When we classify the Owls in a true natural way, we must proceed as follows:—

The Owls as a family are the true representants of the class of birds in their suborder *Rapaces,* which consists of the families—(1.) *Falconidæ,* (2.) *Strigidæ,* (3.) *Gypogeranidæ,* (4.) *Gypaëtidæ* and *Vulturidæ.*

The *Day Owls—Surninæ,* like the *Falconinæ* of the *Falconidæ,* are the manifestations of the eye, nerve, and head, and must therefore have as a subfamily the first rank.

The *Night Owls—Striginæ* are the representants of the ear, respiration, and breast, and must have therefore as a subfamily the second rank. In the second subfamily *Striginæ* of the second family *Strigidæ,* we must find out the true representant of the whole subfamily and family. If we look which genus among the *Striginæ* has the most completely developed ear with a complete operculum; which has the bird character, the longest wings, the largest breast and a very inconsiderable weight, we shall find there is no other genus than *Otus.*

OTUS is therefore the second genus in the subfamily, *and it is the type-genus of the whole family Strigidæ.*

In this genus, which can be subdivided into five different little subgenera, we must find a subgenus, which has the longest wings and the lightest body, which is a true Night Owl, and which for the most part sleeps by day.

This is the subgenus OTUS with the following species:—*vulgaris, americanus, zonurus.*

In this subgenus OTUS I take the common Long-eared Owl, OTUS VULGARIS, *for the typical species.*

From this species we must abstract the characters to find out the second genus in the first subfamily *Surninæ*, and the second subgenera in all the other genera. The characters of this typical species are the following:—Beak feeble, and from the cere curved; enormously large and *asymmetric* ear with a large operculum, very developed feather-wreath in form of circle around the ear, long wings, only the first quill on the end of the inner web with an emargination; the surface of the webs covered with a very soft felt; the exterior web of the first quill very long and clearly dentilated like a comb, the body light as if filled with air, very soft flying, truly nocturnal, sleeping during the day. If we take these characters we cannot find another genus in the subfamily *Surninæ* than *Nyctale*, Brehm., as one which, by its habits and colouring can have any other place than near to *Athene* and *Glaucidium*.

Up to this point, however, we have only given two genera their true places in the two subfamilies, namely—

A. *Surninæ* 1 ... ... 2. *Nyctale*.
B. *Striginæ* 1 ... ... 2. OTUS.

Only an arbitrary system can give these two genera another rank.

We must now see which genus of the *Strigidæ* forms the first genus in the first subfamily *Surninæ*. Which is the true manifestation of the Eye, Nerve and Head-Bird? Which has the greatest number of analogies with the first genus *Zerax* of the first subfamily *Falconinæ* and the first family *Falconidæ*—a genus which has the most handsome skull, the largest brain, and the finest eyes?

It is the genus *Glaucidium*, Boie, which has the analogy with *Zerax*, that it contains the smallest Owls of the whole family, and that the round nostrils are bored in the middle of the pear shaped and swollen cere. In this genus we find the first wing-feather shorter than the tenth, and the toes naked and not covered with a thick plumage.

When we compare these characters with those of other Owls, we give them the first rank as a genus or as a subgenus.

In the first subgenus *Pisorhina (Scops manadensis)* of the genus *Scops*, we find that the nostrils are bored in the middle of the pear shaped and swollen cere; and I draw the conclusion without having seen the species, that the first wing-feather is shorter than the tenth.

The genus *Scops* has this analogy with the genus *Glaucidium*, that it has, amongst all the true *Striginæ* the finest formed round skull, with the largest brain and the least developed pneumacity of the coronal bones. Like *Glaucidium*, *Scops* contains the smallest species of its whole subfamily *Striginæ*.

My classification of the Owls begins now to grow in the following manner:—

A. SURNINÆ.	1. *Glaucidium.*	2. *Nyctale.*
B. STRIGINÆ.	1. *Scops.*	2. OTUS.

To find out the rank of the six other genera of the subfamilies, *Surninæ* and *Striginæ*, we must apply the characters which distinguish the type of the other order—III. *Grallæ*. IV. *Ichthyornithes (Rapaces et Palmipedes)*; and V. *Gallinæ*.

One of the most important characters of the *Grallatorial* type *(Brevipennes)* is short wings, but large development of the legs, short toes with a very heavy and large body, with great development of the bones. The birds of this type like the ground and are better runners than flyers.

With these characters we find in the genus *Athene* a subgenus, which has very long legs and short toes, which is a good runner and likes the ground, making its nest in holes or burrows. It is my third subgenus *Pholeoptynx (A. cunicularia)*. This subgenus gives *Athene* as a genus also the third rank, because it represents the *Grallatorial* type among the *Surninæ*.

With these characters, long feet, short toes, colossal body, great mass of bones, we give the subgenus *Ketupa* the third rank in its genus *Bubo*. I consider in the subgenus *Ketupa*—*Bubo pelii*[*] as the typical species of this subgenus and the whole genus *Bubo*. *Ketupa* gives the whole genus *Bubo* with the largest forms the third rank.

My arrangement now extends further.

A. SURNINÆ. 1. *Glacidium*. 2. *Nyctale*. 3. *Athene*.
B. STRIGINÆ. 1. *Scops*. 2. OTUS. 3. *Bubo*.

Enormous voracity, great development of the claws, often pectinated on the middle toe, is a sign of the *Rapaces* or *Pelicanidæ* type.

Immense voracity, very strong and curved claws, a rudimentary cere, like the fourth family *Gypaëtidae* we see in the genus *Surnia*, and we give it the fourth rank. It shows some analogies with the true Falco, fourth genus of the *Falconinæ*.

Most enormous voracity, and a pectinated middle claw we find yet only in the genus *Strix*, and we give *Strix* in the second subfamily the fourth rank. It shows, like the fourth subfamily *Gypaëtidæ*, the longest and the most ugly skull.

My arrangement of the genera now approaches its close.

A. SURNINÆ. 1. *Glaucidium*. 2. *Nyctale*. 3. *Athene*. 4. *Surnia*.
B. STRIGINÆ. 1. *Scops*. 2. OTUS. 3. *Bubo*. 4. *Strix*.

Very developed plumage, with a great number of bands, long banded tail, and vegetable nourishment, is a sign of the *Gallinæ* type.

We find in the Australian species of my genus *Zeraglaux*, a great development of the plumage, very long banded tail; and in the last subgenus *Zeraglaux (Z. strenuus)*, Mr. Gould mentions having found berries in the stomach. On this account I give *Zeraglaux* the fifth rank.

In the subfamily *Striginæ*, we find in the genus *Syrnium* a very developed banded plumage and a very long tail. It is possible that we may find, at some future time, vegetable nourishment also in the last subgenus of this genus.

[*] Ch. Bonaparte takes this species to be a proper genus *Megapelia*; but I am quite certain that it is only a species of the subgenus *Ketupa*, and that it is a true *Ketupa*, by a strong comparison of the wings, legs, and nails.

My arrangement is now closed so far as regards the genera.

A. SURNINÆ. 1. *Glaucidium*. 2. *Nyctale*. 3. *Athene*. 4. *Surnia*. 5. *Zeraglaux*.
B. STRIGINÆ. 1. *Scops*. 2. OTUS. 3. *Bubo*. 4. *Strix*. 5. *Syrnium*.

I think we have no more existing genera, because the tenth genus makes a circle, and *Glaucidium* and *Syrnium* exhibit the same character, that the first wing-feather is shorter than the tenth. The last genus *Ibicter* in the family *Falconidæ*, has also some characters in common with the first genus *Zerax*.

We see also in every subfamily the affinity of the alternates, and (1.) *Glaucidium*, (3.) *Athene*, (5.) *Zeraglaux*, are so very nearly connected, that all the Ornithologists have mixed these three genera together; (2.) *Nyctale*, and (4.) *Surnia*, show also a very near affinity.

The same is the case also with (1.) *Scops*, (3.) *Bubo*, and (5.) *Syrnium*. These genera are also so near, that some Ornithologists have brought a true *Bubo (Bubo cristatus)* into the neighbourhood of *Scops* and a true *Bubo (B. philippensis)* to *Syrnium*.

All the genera must be divided into subgenera, which must be arranged in the same way, as I have classified the true genera. I give a survey of all these subgenera :—

A. SURNINÆ.

I. GLAUCIDIUM.	II. NYCTALE.	III. ATHENE.	IV. SURNIA.	V. ZERAGLAUX.
a.	*a.* The species with naked toes	*a.* Microglaux perlata, &c.	*a.* Microptynx S. passerina	*a.* . . . .
b.	*b.* Nyctale acadica, &c.	*b.* Athene noctua, &c.	*b.* Nyctea S. nyctea	*b.* Spiloglaux T. boobook, &c.
c.	*c.*	*c.* Pholeoptynx cunicularia, &c.	*c.*	*c.* Sceloglaux albifacies
d. Glaucidium nanum, &c.	*d.*	*d.*	*d.* Surnia ulula	*d.* Ctenoglaux scutellatus
e. Taenioptynx Brodiei.	*e.*	*e.* Taenioglaux castaneoptera, &c.	*e.*	*e.* Zeraglaux strenuus, &c.

B. STRIGINÆ.

I. SCOPS.	II. OTUS.	III. BUBO.	IV. STRIX.	V. SYRNIUM.
a. Pisorhina manadensis	*a.* Pseudoscops grammicus	*a.* Lophostrix cristata	*a.* Phodilus badius	*a.* Ciccaba hahula, &c.
b. Scops ephialtes, &c.	*b.* OTUS vulgaris, &c.	*b.* Bubo maximus, &c.	*b.* Strix flammea, &c.	*b.* Syrnium aluco, &c.
c. Aenemis gymnopodus	*c.* Rhenoptynx mexicanus, &c.	*c.* Ketupa peli, &c.	*c.* Scelostrix candida	*c.* Bulaca indranee
d. Ptilopsis leucotis, &c.	*d.* Brachyotus brachyotus	*d.* Urrua coromander, &c.	*d.* Dactylostrix personata, &c.	*d.* Pulsatrix torquatum
e. Megascops asio, &c.	*e.* Phasmoptynx capensis	*c.* Pseudoptynx philippensis	*e.* Megastrix tenebricosa	*e.* . . . .

Up to the present time we have not found the first subgenus in the first genus *Glaucidium*.

The first subgenus in the second genus *Nyctale* will be found in the Museum of Leyden. The species was mentioned to me verbally by Prince Ch. Bonaparte.

The first subgenus *Microglaux* of *Athene*, and the first subgenus *Microptynx* of *Surnia*, are the smallest in their genera, and have the first wing-feather shorter than the tenth. The first subgenus in the genus *Zeraglaux*, with the same characters, is yet undiscovered. In the second subfamily *Striginæ*, *Pisorhina (manadensis)* has certainly the first wing-feather shorter than the tenth, because all the subgenera *Pseudoscops*, *Lophostrix*, *Phodilas*, and *Ciccaba* have the same characters, and also naked toes with scales.

The subgenera of the second rank have *asymmetric ears*, longer wings, only emarginated towards the end, and broad felted inner webs; they are nocturnal.

With these characters, I give the second rank to the subgenera *Nyctale (acadica, funerea)*; *Athene (noctua, meridionalis, brama; Nyctea (S. nyctea)*; *Spiloglaux (boobook, maculatus, marmoratus; Novæ zelandiæ)*; *Scops (ephialtes, senegalensis, pennata)*; *Otus (vulgaris, americanus, zonurus)*; *Bubo (bengalensis, maximus, ascalaphus, africanus, virginianus)*; *Strix (punctatissima, flammea, perlata, delicatula)*; *Syrnium (nivicolum, aluco, cinereum, nebulosum et uralense)*.

The characters of the subgenera of the third rank are—long, straight bill, long legs, very often naked, short toes, short wings, live on the ground, good runners. Where we find this character we give the third rank.

These characters are exhibited by *Pholeoptynx (A. cunicularia, Sceloglaux (T. albifacies)*, *Aenemis (Scops gymnopodus)*, *Rhenoptynx (mexicanus* et *madagascariensis)*, *Ketupa (B. ceylonensis, ketupa, peli flavipes)*, *Scelostrix (str. candida)*, et *Bulaca (syrn. Indranee, sinense, pogadorum et leptogrammicum)*.

Very developed bill, strong claws, long toes, and great voracity, give all the subgenera the fourth rank. On account of these characteristics, I give *Glaucidium (nanum, pumilum, infuscatum, ferrugineum); Surnia (ulula)*, *Ctenoglaux (scutellatus)*, *Ptilopsis (scops leucotis)*, *Urrua (Bubo coromander, orientalis, lacteus); Dactylostrix (Strix castanops et personata) et Pulsatrix (syrn. torquatum)* the fourth rank.

Very developed banded plumage, long tail, and vegetable nourishment, are signs of the *Gallinæ* type. On this account I give *Taenioptynx (Gl. brodiei); Taenioglaux (Athene castaneoptera, erythroptera, cuculoides, capensis)*, *Zeraglaux (strenuus, rufus, connivens); Megascops (Scops asio, atricapilla, brasiliensis, indica); Phasmaptynx (Otus capensis)*, *Pseudoptynx (Bubo philippensis)*, *Megastrix (str. tenebricosa)*, the fifth and last rank.

NOTES

ON SOME

BIRDS FROM THE RIVER GABOON IN WEST AFRICA

BY

H. E. STRICKLAND.

A SMALL collection of birds from this new locality has lately been purchased from M. E. Verreaux of Paris, by E. Wilson, Esq., who has kindly submitted them to my examination before sending them to their destination in the Philadelphia Museum. The River Gaboon, or as the French write it, Gabon, is situated exactly under the Equator, and is considerably farther south than most of the localities where West African Birds have hitherto been collected. It has consequently afforded several new species, and in order to show the geographical distribution of others, I have thought it best to give a list of the whole collection. The specimens were labelled by M. Verreaux, whose MS. names I have retained in all cases where it was practicable.

The species which are *additional* to Dr. Hartlaub's list of West African Birds in the "Verzeichniss der Vorlesungen" of the Hamburg Gymnasium, 1850 (see Contributions to Ornithology, 1850, p. 129), are marked with an asterisk.

*1. *Hirundo melbina*, Verreaux MS. A curious little Swallow, combining the typical structure of *Hirundo* with the sombre colouring of *Chelidon* or *Cotyle*. Crown and sides of head, rump and upper tail-covers, fuscous brown; upper back and wings black, with a steel blue gloss; tail blackish, deeply furcate, the external rectrices narrow, and 7̈ longer than the next; chin and lower parts white with a pale brownish tinge. Beak black, legs pale brown.

Total length, 5̇.6̈; beak to front, 2̈; wings, 3̇.9̈; medial rectrices, 1̇.6̈; external, 3̇; tarsus, 4̈½.

2. *Platystira leucopygialis*, Fraser, Zoologia Typica, pl. 34. The *P. castanea* of Fraser is the ♀ of this bird.

* 3. *Hyliota violacea.* (*Muscicapa violacea*, Verreaux MS.). This bird is interesting as affording a second species of a genus of which one species only, the *H. flavigaster*, Swain., of Senegal, was hitherto known. It much resembles *H. flavigaster*, but differs in its broader beak and the less extent of white on the wing. Whole upper parts black with a steel blue gloss, of a rather more purple hue than in *flavigaster*. Three or four of the greater wing-covers next the body are white (in *flavigaster* the whole of the middle and the basal half of the greater covers are white). Lower parts pale cream colour; tibiæ black; beak and legs fuscous.

Total length, 5̇; beak to front, 5̈; to gape, 7̈; broad, 2̈½; wing, 3̇; medial rectrices, 1̇.9̈; external, 2̇; tarsus, 7̈.

*4. *Dicrurus coracinus*, Verreaux MS. Whole plumage deep velvety blue black. Quills internally black. Total length, 8̇½; beak to front, 6̈; to gape, 1̇; high, 3̈½; wide, 3̈; wing, 4̇.9̈; medial rectrices, 3̇.5̈; external, 4̇.3̈; tarsus, 7̈.

5. *Chaunonotus sabinei*, Gray. (*Hapalophus melanoleucus*, Verreaux MS.).

*6. *Pycnonotus ashanteus*, Bon.? (*Ixos ashanteus*, Bon., Verreaux MS.). This bird differs from *Pycnonotus barbatus* (Desfont.) (*Turdus arsinoe*, Licht., *Ixos obscurus*, Temm., *Ixos inornatus*, Fraser, *Hæmatornis lugubris*, Less., all of which names belong, in my opinion, to *one* species, though Prince Bonaparte makes *two* of them), *only* in having a very slight wash of yellow on the lower tail-covers, which in *P. barbatus* are white. Though labelled *Ixos ashanteus*, I doubt its being the true *ashanteus* of Bonaparte, Conspectus Generum Avium, p. 266, as he says it only differs from his *I. obscurus* in being much less, whereas the present specimen agrees in size with *obscurus* (*P. barbatus*, Desfont.).

*7. *Ixonotus guttatus*, Verreaux MS. A curious form belonging to the subfamily *Pycnonotinæ*. At first sight resembles in general appearance the genus *Chrysococcyx*. Beak longer than in *Pycnonotus*.

Rump-feathers very long and thick. This bird will be figured in the Illustrations to the Proceedings of the Zoological Society.

*8. *Pratincola olax*, Verreaux MS. Resembles *P. rubicola*, of Europe, and still more *P. pastor*, Strickland, of S. Africa, but the beak is wider, and the *breast* only is rufous, the *sides* being white.

*9. *Lamprocolins purpureiceps*, Verreaux. Whole head and throat glossy violet purple; whole back, breast and belly, glossy bluish-green; wings glossed with steel blue; the primaries externally with violet; tail black, slightly glossed with purple; beak and legs black.

Total length, $\dot{7}.\ddot{2}$; beak to front, $\ddot{6}$; to gape, $\ddot{8}$; wing, $\dot{4}.\ddot{3}$; medial rectrices, $\dot{2}.\ddot{8}$; external, $\dot{2}.\ddot{9}$; tarsus, $\ddot{7}$.

10. *Nigrita canicapilla*, Strickland. This bird, hitherto found only in Fernando Po, is now shown to extend to the adjacent African continent.

*11. *Nigrita lutifrons*, Verreaux MS. A typical species of this very limited genus, resembling *N. canicapilla* in the general arrangement of colour, but smaller, and wants the black front and the white wing spots. It will be figured in the Illustrations of the Proceedings of the Zoological Society.

12. *Malimbus rubricollis* (Swainson). (*Euplectes rufovelatus*, Fraser).

*13. *Anthreptes aurantius*, Verreaux MS., closely allied by the stout straight form of beak to *A. longuemarei* of Senegal, though the arrangement of the colour, and especially the orange tufts on the sides of the breast, connect it with *Nectarinia*. It will be figured in the Illustrations of the Proceedings of the Zoological Society.

14. *Nectarinia chloropygia*, Jard.

15. *Nectarinia stangeri*, Jard.

16. *Nectarinia fuliginosa*, (Shaw)? Differs from *N. fuliginosa* as usually described, in having the upper tail-covers *purple* instead of *brown* like the rest of the upper parts. In this state it is described by Lesson in his "Description de Mammifères et d'Oiseaux récemment découverts," p. 271; but whether it be a peculiar state of plumage, or a distinct species, we have as yet no evidence.

17. *Nectarinia superba* (Vieill.)? This splendid bird is labelled by Verreaux, "*Cinnyris sanguineus*, Less. *C. superbus*, Vieill." It agrees with the descriptions of *N. superba* (Vieill.), except in wanting the golden green band which separates the violet purple of the throat from the dull red of the breast. The vent and lower

tail-covers are deep black. Crown metallic greenish-blue, a minute purple spot behind each supercilium; ear-covers, nape, back, lesser and middle covers, scapulars, rump and upper tail-covers, metallic green, with a golden gloss on the upper back and ear-covers. Rest of wings and tail black, with a faint purplish gloss. Total length, 5̇ . 6̈; beak to front, 1̇ . 2̈; wing, 3̇; medial rectrices, 2̇; external, 1̇ . 9̈.

I can find no reference to the "*Cinnyris sanguineus*, Less.," quoted by Verreaux, so I conclude that it is a MS. name.

*18. *Nectarinia johannæ* (Verreaux). The ♂ will be figured in the Proc. Zool. Soc. The ♀ is dark olive brown above, very pale yellow on throat and deeper yellow on breast, belly, and lower tail-covers; the whole lower parts with a brown streak down the middle of each feather.

19. *Alcedo leucogaster*, Fraser.

* 20. *Alcedo quadribrachys*, Bonap., Consp. Gen. Av. p. 158. Plate lxxix. This beautiful Kingfisher presents a remarkable similarity to the well known *Alcyone azurea* of Australia, from which however it is at once distinguished, by having four toes, a character which places it in *Alcedo*. The whole upper parts, cheeks and sides of neck, are deep Prussian blue, barred with black on the crown; the lores, patch behind the ears and throat, are pale fulvous, lower parts deep ferruginous. Remiges blackish; rectrices black with a tinge of blue; beak black; legs red.

A young specimen differs in having a blue tinge spread over the breast.

Length, 6̇ . 5̈; beak to front, 1̇ . 7̈; wing, 3̇ . 1̈; tail, 1̇ . 5̈; tarsus, 3̈.

I have had a specimen of this bird in my collection since 1838, but from not knowing its locality, I have been unable to identify either its name or habitat till now.

21. *Halcyon cancrophaga* (Lath.)? This bird was so named in a list sent me by Mr. Wilson, but Verreaux's label has been lost. It seems however to be different from *H. cancrophaga* as described by Latham after Buffon.

Head, cheeks, upper back, scapulars, and lesser and middle wing-covers, deep chesnut; greater covers blackish. Lower back and upper tail-covers, azure; primaries black; secondaries azure, externally tipped black; tail deep blue, tipped black; chin and lower parts white; beak red; legs reddish.

Length, 7̇ . 5̈; beak to front, 1̇ . 1̈; wing, 3̇ . 7̈; tail, 1̇ . 5̈.

This is one of the birds which Mr. Mitchell intends to figure in the Proceedings of the Zoological Society.

22. *Melittophagus variegatus* (Vieill.). (*M. lefebvrei*, Desmurs. *M. cyanipectus*, Verreaux MS.).

23. *Chrysococcyx smaragdineus* Swainson? The specimen from Gaboon is barred with green and rufous on all the upper parts, and with green and yellowish-white below.

*24. *Trachyphonus purpuratus.* An interesting bird, almost intermediate between *Trachyphonus* and *Pogonius.* There is a slight notch about the middle of the margin of the upper mandible, but no projecting tooth as in *Pogonius.* The beak however is much stouter than in the typical species of *Trachyphonus.*

It will be figured in the Proceedings of the Zoological Society.

25. *Barbatula atroflava* (Sparrm.). (*B. erythronotus*, Cuv.).

26. *Barbatula subsulphurea*, Fraser. (*B. flavimentum*, Verreaux MS.).

*27. *Barbatula leucolæma*, Verreaux MS. Closely allied to *B. subsulphurea*, and only differs in having the chin and throat white, with a pale grey tinge, while in *subsulphureus* the whole lower parts, including the throat, are sulphur yellow.

ON A

NEW SPECIES OF *MUSOPHAGA*

BY J. GOULD, ESQ., F.R.S.

PLATE LXXXI.

MY DEAR SIR WILLIAM — I send you for insertion in your "Ornithological Contributions," the description of a new species of *Musophaga*, which is larger and more beautiful in colouring than any other species with which we are acquainted. It has been for the last ten years, and is still living in St. Helena, in the possession of Lady Ross, widow of the late Sir Patrick Ross, governor of that island. Lady Ross, who is at present in England, has placed in my hands a drawing of the bird made by Lieutenant J. H. Stack, and also a number of the feathers shed from the wings and tail, from an examination of which I am satisfied that it is quite distinct from the other known members of the genus. Her ladyship informs me, that it is nearly the size of a common hen pheasant, and has a long, full, graduated blue tail, which colour pervades the neck and the whole of the body, and also the wings, except the primaries, which are arterial blood red, margined at the tips with a purplish-brown colour, similar to that observable in *Musophaga violacea;* the bill and the large denuded orbits are yellow; the irides are brown; the crown of the head is surmounted with a high rounded crest of hair-like blood red feathers.

At the meeting of the Zoological Society of London, held on the 11th of March, 1851, I brought my knowledge of this bird under the notice of the members then present, and proposed for it the name of "*Musophaga rossæ*," in honour of its amiable owner, whose return to St. Helena is somewhat uncertain. In the event of her ladyship not proceeding thither, she has promised that the bird shall be brought to England, where its arrival cannot fail to be highly interesting to every lover of ornithological science. Lady

Ross informed me, that it was brought to the island from the Western Coast of Africa, but the precise locality is I believe unknown. The feathers represented in the accompanying sketch are two primaries and a portion of a tail-feather of the natural size, drawn by Mr. H. C. Richter.

20, Broad Street, Golden Square, London,
29th September, 1851.

DESCRIPTIONS

OF

THREE NEW SPECIES OF HUMMING-BIRDS

BY JOHN GOULD, ESQ., F.R.S., &c.

MY DEAR SIR WILLIAM—I send you herewith, descriptions of the three new Humming-Birds lately sent by our mutual correspondent, Professor Jameson of Quito, who will, I am sure, be much gratified to find that his researches have been rewarded with the discovery of several additional species of a group of birds, the beauty of which has attracted the attention of so many explorers, as to render the acquisition of even one novelty a source of gratulation.

Ever truly yours,

JOHN GOULD.

20, Broad Street, Golden Square, London,
1st October, 1851.

PHÆTHORNIS SYRMATOPHORA, GOULD.

CROWN of the head and back of the neck dark brown, most of the feathers narrowly fringed with buff; back and shoulders bronzy green, with crescentic bands of buff; rump and upper tail-coverts rich buff, forming a conspicuous mark; chin white; a buffy white mark surmounts the eye, and extends backwards down the sides of the neck; chest, abdomen, and under tail-coverts, rich buff; apical half of the two central tail-feathers, which extend that distance beyond the lateral ones, white; their basal half green with black edges; lateral tail-feathers greenish-black, largely tipped with buff; wings purplish-brown; upper mandible blackish-brown; under mandible orange red; feet brown.

Total length, 6½ inches; bill, 1¾; wing, 2¼; tail, 3.

Habitat. Interior of Quito, in Ecuador.

Remark. Allied to *P. eurynome*, but much more richly coloured.

In the collection of John Gould.

SCHISTES ALBOGULARIS, Gould.

CROWN of the head, upper surface and abdomen, bright grass green, with a band of luminous green on the forehead, and a small patch of white behind the eye; tail slightly cuneiform, and of a bright green, with a broad zone of greenish-blue near the tip, which shows conspicuously on the lateral feathers, but is scarcely perceptible on the central ones; the three outer feathers have also a slight fringe of white on each side, near the tip; throat, chest, and a tuft behind the insertion of the thighs, pure white; sides of the neck decorated with tufts of purplish-blue feathers; wings purplish-brown; bill and feet dark brown.

Total length, 3⅝ inches; bill, ¾; wing, 1⅞; tail, 1⅜.

Habitat. Quito, in Ecuador.

Remark. This species is very nearly allied to the *Trochilus geoffroyi* of authors, which with the present bird I have deemed it requisite to raise to the rank of a genus.

In the collection of John Gould.

ERIOPUS LUGENS, Gould.

CROWN of the head, back, shoulders, and upper tail-coverts. bronzy green, slightly tinged on the latter part with rufous; throat, abdomen, and under tail-coverts, hoary black, with a tinge of green on the flanks, and a narrow fringe of white on each of the feathers of the throat and chest; tail bluish-black; wings purplish-black; lengthened feathers, forming a ruff round the thighs, white; front of the tarsi and toes, purplish-black; behind yellowish; bill black, except the base of the lower mandible, which is yellowish.

Total length, 4¼ inches; bill, ¾; wing, 2⅜; tail, 1⅝.

Habitat. The neighbourhood of Quito, in Ecuador.

Remark. This species which is about the same size but somewhat more robust than *E. aureliæ*, would appear, from its sombre colouring and thick but lax plumage, to be a frequenter of the colder regions of the country it inhabits.

In the collection of John Gould.

BIRDS OF WESTERN AFRICA.

HIRUNDO GORDONI, JARDINE.

WHEN describing the collection of birds procured on the Western Coast of Africa by Staff-Surgeon Gordon of the 57th Regiment, we introduced the *Hirundo melanocrissus* of Rüppell as part of the collection. On again examining the specimens we find that this was an error, and at present we cannot reconcile Dr. Gordon's specimens with any description. Two specimens were received, both apparently in complete plumage; but one may be considered as an adult male, having the tail very much developed.

Above, Deep indigo with bright reflexions; rump sienna; wings and tail black; tail much forked and having the four exterior feathers marked with white on inner webs. *Below*, Pale sienna.

Length, $\dot{8}.\ddot{8}$; fork of tail, $\dot{3}$; wing, $\dot{4}.\ddot{6}$.

A more slenderly formed bird than *H. senegalensis*, outer tail-feathers very long.

In another specimen, the tint of the lower parts varies in being considerably darker, particularly on vent and under tail-coverts.

The length is only $\dot{6}.\ddot{8}$; fork of tail, $\dot{1}.\ddot{5}$; wing, $\dot{4}.\ddot{1}$.

These birds differ from—

H. melanocrissus, Rüpp., in having no sienna collar, in under tail-coverts being sienna not black, in four outer tail-feathers being marked with white on inner webs.

H. rufula, Temm. Man. iii. p. 298—in having no sienna collar, under parts not being striated, and in having white on tail.

H. daurica, Linn.—in having no dark sienna collar, under parts not being striated, under tail-coverts sienna not black, and in having white on tail.

We perceive that Dr. Hartlaub does not admit Rüppell's *H. melanocrissus* in his list of West African Birds.

OBSERVATIONS

ON THE

GENUS *SCYTALOPUS*

BY THE

BARON DE LA FRESNAYE.

WE have had the pleasure of receiving a letter from the Baron de la Fresnaye, containing some observations on the genus *Scytalopus* of Gould, and its allies, with some excellent critical remarks upon the synonimy of the species, chiefly suggested by the figures and descriptions published in our last part. We quite agree with the Baron in the priority of *Merulaxis*, Lesson, if this title is to be adopted for all the forms, but we cannot agree in placing the *M. ater* Less., the type of his genus, as congeneric with the small wren-like birds which we have figured under the title of *Scytalopus*.

Falaise (Calvados) France,
14th October, 1851.

DEAR SIR,—Being a subscriber to your charming Contributions to Ornithology, the reading of your interesting note on the genus *Scytalopus* in the last part I have received, has suggested to me the thought of requesting you to publish my subsequent observations on that genus.

After the law of priority has been now so generally adopted among all naturalists, I am surprised that this is not observed for this genus. You know that *Scytalopus* has for synonymes, *Merulaxis* of Lesson; *Platyurus*, Swainson; *Malacorhynchus*, Ménétriés. Now, *Merulaxis* was published and figured in 1830 by Lesson in his Cent. Zool., pl. 30, and in his Tr. d' Orn., p. 397, in 1831; *Malacorhynchus*, by Ménétriés, in his Monogr. des Myothera, in 1834; *Scytalopus*, by Gould in the Proceedings, 1836, p. 90; and *Platyurus* by Swainson in 1837, as it is indicated by Mr. Gray in his Genera of Birds, vol. i., *Sub. fam.* MENURINÆ, gen. *Pteroptochus*, and as I had myself observed in the Revue Zool. of Guérin in 1840, p. 104; therefore it is not difficult to conclude, that *Merulaxis* being the most ancient is naturally to be adopted, and the *Merulaxis ater* of Lesson, the type of the genus, having for subsequent synonymes, *Platyurus corniculatus*, Swains., and *Malacorhynchus cristatellus*, Ménétriés.

We think that all the species of *Merulaxis* known by us to the number of sixteen or seventeen, present so great an analogy in the structure and form of their bill and nostrils, their wings and tail, and specially in the length of their toes, and the coloration and softness of their plumage, that it is more conformable to nature to place them in one genus only, than to divide them into three genera, as they are in the Conspectus Avium, p. 206.

We propose to adopt several sections in the genus *Merulaxis*, as *Galeati*, *Rhinolophi*, *Albiventres* et *Concolores*, which will facilitate the study of the species.

Gen. MERULAXIS, Less. — *Malacorhynchus*, Ménét. — *Scytalopus*, Gould. — *Platyurus*, Swains.

A. GALEATI (rostri culmine in spatio frontali, horizontali erecto limbo circumdato).

1. *Merulaxis paradoxus.*—*Troglodytes paradoxus*, Kittlitz über einige vogel von Chili, pl. 9. *Malacorhynchus chilensis*, Ménét., Monog. des Myothera, pl. 89 (ex Chili), *Triptorhinus paradoxus*, Caban. Bon. Consp. Avium, p. 204.

2. *M. orthonyx*, Lafr. Rev. Zool,, 1843, p. 131, et Mag. de Zool. 1844, pl. 93. *Triptorhinus orthonyx*, Caban. Bon. Consp. Av. p. 206 (ex Columbia).

B. RHINOLOPHI (rostri culmine basi elevato, compresso, plumulis frontalibus longiusculis erectis).

3. *M. ater*, Less., Cent. Zool. tab. 30, et Tr. d' Orn. p. 397. *Malacorhynchus cristatellus*, Ménét., Mem. Ac. Petersb. 1834, t. 12. *Platyurus corniculatus*, Sw. Brazil Birds, t. 55, 56 (ex Brazil, Rio de Janeiro). *Sarochalinus ater*, Caban. Bon. Consp. p. 206.

4. *Myothera rhinolopha*, P. Max., Beitr. zur Naturgesch. von Bras. t. 3, p. 1051. *Malacorhynchus rhinolophus*, Ménét., Mon. des Myoth. p. 82. *Sarochalinus rhinolophus*, Caban. Bon. Consp. p. 206.

C. ALBIVENTRIS (gutture, collo antico pectoreque albis, rostro simplici.)

5. *Scytalopus albo-gularis*, Gould, Proceed. 1836, p. 90; Jard. Contr. to Ornit. 1851, part iv. *Scyt. indigoticus*, Licht. Bon. Consp. p. 206.

6. *Malacorhynchus albiventris*, Ménét., pl. 12, f. 2; Jard. Contr. to Ornit. 1851, part iv. *Scytalopus indigoticus*, Licht., Pr. Max. Beitr. zur Naturgesch. von Bras. t. 3, p. 1091; Bon. Conspectus, p. 206.

Note.—The specimen in our collection entirely similar in colour with the plates of Ménétriés and Jardine, presents nevertheless some difference, in the wing-covers being blackish-brown, tipped with pale rufous before a spot of black, as it is seen in the *S. undulatus* of Jardine; from thence I infer that our specimen is not entirely adult. Bonaparte in his Conspectus, does not admit as distinct species the *M. albiventris* of Ménét., and *Scytal. albogularis* of Gould, citing them as synonymes of *Scytalopus indigoticus*, Licht., Pr. Max. After having carefully compared the description of the *Myothera indigotica*, Pr. Max., with that and the figure of *M. albiventris* of Ménét. and Jardine, we have found so great a dissemblance between them, that we cannot agree with the opinion of the Prince Canino in that case; and as to the *Scytalopus albogularis* of Gould, equally cited by him as synonymous, it is easy in comparing the plates of Jardine to perceive the great distinctions between them.

7. *Myothera indigotica*, Licht., Pr. Max. Beitr. vol. iii. p. 1091. *Malac. indigoticus*, Ménét. p. 87. The French description of Ménétriés describes "le cou pardevaut est d'un brun grisâtre avec l'extremité de chaque plume ondulée de gris-juanâtre; la poitrine est blanche avec des lignes ondulées d'un brun grisâtre . . . . . le milieu du ventre est d'un blanc sale avec des lignes ondulées d'un brun gris foncé, les côtés du ventre, l'abdomen, les cuisses et les couvertures inférieures de la queue sont d'un brun rougeâtre, &c.' In this description, the breast and neck are undulated with a distinct colour, while the sides of the belly, the abdomen, wings, and the inferior coverts of the tail, are of a uniform reddish-brown. It is entirely different in the *M. albiventris*. It is found in the province of Bahia.

8. *Scytalopus undulatus*, Jard. and Selby, Ill. of Orn.; Jard. Contr. to Ornithol. 1851, part iv.

D. Concolores. Aut ferê concolores, collo antico pectoreque non albis sed dorso fere concolore.

9. *Malacorhynchus speluncæ*, Ménét. pl. 13, f. 1.—*S. fuscus*, Gould, Bon. Consp. Av. p. 206, habit. in provinciâ Minas Geraës, Ménét.

Note.—The Prince Canino, in his Consp. Av. p. 206, cites this bird as synonymous with the *Scytalopus fuscus* of Gould, with an ? We cannot take part with this opinion, 1*st*, Because Ménétriés, in the diagnosis of his *M. speluncæ*, writes, "Supra cœrulescente murinus; subtus pallidior; gutture, collo pectoreque albo cinereis; alis caudaque fusco-nigricantibus, long. toto. $\dot{4}.\ddot{5}$; tail, $\dot{2}$; tars. $\dot{9}$;" and he adds in his description, "la queue est alongée a pennes larges et molles. . . . . . la couleur gris bleuâtre du dos devient blanchâtre vers le milieu de la gorge et de la poçtrine, &c.," which is very well expressed on the plate 13, f. 1, of Ménétriés.

Now the *Scytalopus fuscus* of Gould, as it is described and figured on the plate in the Contr. to Ornithol., has all the plumage of a uniform sooty black, &c., "and presents a bird remarkable by the shortness of its tail and the uniformity of its coloration." In comparing the two descriptions and plates, it is impossible to look upon them as the same bird. The *M. speluncæ,* inhabits in the province of Minas Geraës, while the *Scytalopus fuscus* of Gould inhabits the Straits of Magellan and Chili.

10. *Scytalopus fuscus*, Gould, Proceedings, 1836, p. 90; Jard. Contr. to Ornithol. 1851, part iv. *Platyurus niger*, Swain. Anim. in Menag. sp. 128, Chili.

If we have quoted here the *Platyurus niger* of Swainson as synonymous with the *Scytalopus fuscus*, it is because no bird can be considered as agreeing so well with the description of the *Platyurus niger*, Swainson, "*Entirely sooty black, tail short, inhabits Chili*, size of a wren, total length, 4 in.; bill, gape, ½ in.; wings, 2 in.; tail short, almost hid by its covers, and about one inch from the base; feet pale, bill black;" the uniformity in the colouring, the shortness of the tail, the habitation of these two birds, seem to me a very strong proof of their synonymy.

11. *Megalonyx negre* (Hombron et Jacquinot), Voyage au Pole Sud, Ois. tab. 19, f. 1. Though this bird seems to have the great-

est analogy in the colouring and dimensions with the *Scytalopus fuscus*, nevertheless it appears to us to differ, in the tail being longer, in its feet blackish and not pale, and in its colouring appearing black and not sooty black.

12. *Mer. fuscoïdes*, Nob. (nov. spec.) "Supra et subtûs fusco-murinus, omnino talpæ concolor, alis tantummodo fumigato-brunnescentibus; caudâ mediocri, pedibus pallidis. Hab. Chili; total length, being stuffed, $4\frac{6}{8}$ in.; of the wing, $1\frac{7}{8}$; tail, $1\frac{5}{8}$."

Before we had seen the figure of the *Scytalopus fuscus* in the plate of Sir W. Jardine, we thought our bird identical with it; but since we possess this plate, we acknowledge that ours is larger, and that its tail, especially, is much longer.

13. *Mer. analis*, Nob.; *Mer. analis*, Lafr. Rev. Zool. 1840, p. 104.

"M. supra totus schistaceo-griseus, plumis uropygialibus tantummodo apice et vix conspicué rufescentibus; subtùs pallidior, cinerascens, pectore imo ventreque médiis, cinerascenti-albidis; abdomine imo, ano et subcaudalibus rufis; pedibus pallidis, digitis polliceque præsertim valde elongatis cum ungulis albido flavescentibus. Long. tota (avis arte farcto) $5\frac{5}{8}$; unc. angl. alæ plicatæ, $2\frac{3}{8}$; caudæ, $2\frac{6}{8}$; pollicis, $\frac{6}{8}$; digiti medii (cum ungulis) $\frac{7}{8}$. Habitat in Paraguay et Chili regionibus."

After the *Mer. orthonyx*, Nob., and the *Mer. ater*, Less., this species is the largest of our collection, it is a little smaller than the *Mer. ater*, and it differs principally from it, by the tail being much shorter, by the lower coloration paler, and by the frontal feathers not lengthened nor erected.

14. *Mer. senilis*, Nob.; *Mer. senilis*, Lafr. Rev. Zool. 1840, p. 103.

"M. totus cinereus, supra intensiùs, subtùs pallidiùs, fronte et aliquot alæ tectricibus albis, rostro supra corneo, subtùs pallide flavo; pedibus sordide flavis. Long. toto (arte farcto), $5\frac{3}{8}$; unc. angl. alæ, $2\frac{6}{8}$; caudæ, $2\frac{3}{8}$; pollicis cum ungulâ, $\frac{5}{8}$; digiti medii, $\frac{7}{8}$. Habitat, Santa Fé de Bogota."

This, allied to the former species, differs specifically, by its less size, its uniform coloration, and its feet being dirty yellowish, not whitish.

15. *Mer. griseicollis*, Nob.; *M. griseicollis*, Lafr. Rev. Zool. 1840, p. 103.

"M. supra schistaceus, dorso imo alis caudâque fumigato-brunneis, pennis longis uropygialibus rufis; subtùs gulâ, collo pectoreque cinereis, pectore imo ventreque mediis albescentibus, abdomine imo crissoque rufis; pedibus pallidis. Long. toto, $4\frac{5}{8}$; alæ, $2\frac{4}{8}$; caudæ, $1\frac{6}{8}$. Habitat, Santa Fé de Bogota."

A second example, employed for our description in 1840, differs from this, by the feathers of the wing and of the tail being irregularly streaked with black. We think it is a female, or a male not yet adult.

A third example differs again, by its gray tail, and by the under feathers of the tail, not being rufous, but a mixture of brown and gray.

16. *Megalonyx nanus*, Less. Rev. Zool. 1842, p. 135.

"M. corpore griseo suprà; cinereo infrà; abdomine lateribusque rufis; rostro corneo; pedibus luteis ♂.

"Corpore brunneo supra, et plumis rufo circumdatis; collo antico griseo albente, rufo tenuiter striato ♀. Habitat, Chiloë." (Less. Rev. Zool. 1842, p. 135.)

After this description of Mr. Lesson, this species seems to have some relation with our *M. griseicollis*, but Lesson does not say that his *Meg. nanus* has the rump rufous; besides, his came from Chiloë, and ours from Bogota, certainly.

17. *Mer. squamiger*, Nob.; *M. squamiger*, Lafr. Rev. Zool. 1840, p. 103.

"M. suprà totus brunneo rufus, plumis uropygialibus vividé rufis; plumis totis capitis, colli, dorsi, alæque tectricibus et remigibus tertiaris vittâ nigrâ squamæformi marginatis; caudæ tectricibus æqué nigro vittatis; gutture, collo antico et abdomine medio pallidé rufescentibus, pectore et hypochondriis nigro-fusco irregulariter striatis; rostrum pallidé corneum; pedibus pallidis. Long. toto, $3\frac{6}{8}$; alæ, 2; caudæ, $1\frac{1}{8}$."

This bird, whose plumage is all rufous, variegated and streaked with black, is probably a young one; it is remarkable by the slenderness and shortness of its bill and of its tail.

BIRDS OF WESTERN AFRICA.

COLLECTIONS OF L. FRASER, Esq.

Mr. Lewis Fraser, well known to Naturalists as the Zoologist to the Niger Expedition, and as the author of the "*Zoologia Typica,*" was lately appointed Her Majesty's British Consul at Whyddah, on the West Coast of Africa, and has already devoted part of the time he can spare from his official duties, to examine the zoology of that fatal coast and its islands; a small collection has reached his friend and agent, Hugh Cumming, Esq. of Gower Street, Bedford Square, London, while the last mail brought us a letter from Mr. Fraser himself, intimating its destination. Mr. Cumming has forwarded the greater portion of the collection for our examination, and after the numerous notices on West African Ornithology which have appeared in these "Contributions," we need scarcely say, that it has been received and examined with great interest. Although there are numerous specimens, between eighty and ninety in number, there are only about eighteen species. Of these, with the exception of *Nectariniæ* nearly the whole are described, being from a comparatively well known locality, the vicinity of Clarence, in the island of Fernando Po.

The *Nectariniæ* form the most numerous part of the collection. Five species occur among them. There are several specimens of *N. chloropygia*, Jard., which do not vary from those originally procured by Dr. Stanger and Mr. Fraser during the Niger expedition. Of *N. obscura* there is a single specimen.

Specimens of a small bird, allied to *N. collaris*, Vieill., require our attention. Mr. Edward Wilson, to whose kindness we have been so frequently indebted for interesting subjects of illustration, previous to the departure of Mon. Bourcier for Quito, purchased that gentleman's collection of *Nectariniæ*.* Mon. Verreaux, the Parisian dealer, added notes and observations to Mon. Bourcier's list which accompanied it; and Mr. Wilson intrusted the entire collection to our care, with a request that we would add to the catalogue any observation that might occur, previously to the whole being despatched to his brother in New York.

---

* We regret to add, that the whole of this valuable collection, except one or two specimens we had retained, was lost on their passage to America.

Both sexes of a bird, bearing the title of *N. collaris*, Vieill., but from Western Africa, formed part of this collection, and to this Mon. Verreaux added the following "*note:*"—" Indiqúe sous le nom Proche ou *Metallicus*. C'est le *N. collaris*, de Vieill., figureé dans le Nat. Libraire, pl. 6. J'engage Sir W. Jardine a comparer les individus ♂, ♀, qui sont du W. Africa avec les individus du Sud de l'Afrique, car pour moi, ils forment deux espèces distinctes. Celle du Cap est figureé dans Le Vaillant, elle n' a' jamais le bec aussi fort, le plumage d'un vert aussi brilliant, car les plumes vertes laissent toujours a découvert des teintes grisatres qui colorent la base des plumes, ou pour mieux dire, la majeure partie de chacune d'elles. La jaune du ventre est egalement moins vif, et en dessous des Touffes Jaunes qui sont de chaque coté de thorax, l'est facile de voir une teinte olive qui colore les plumes des flancs. La queue paroit aussi plus court. Je le regarde comme une espece distinct a laquelle l'engage Sir W. Jardine a donner le nom de *gamtocincis*, ayant été figureé per Le Vaillant Ois. d'Afrique, pl. 299 sous celui de *gamtocin*. C'est du reste, le nom qui se trouvait porté sur les observations Africaines perdues avec tout le reste dans mon naufrage au retour du Cap."

In Mr. Fraser's present collection there are three specimens of this *Nectarinia*. M. Verreaux was right in his opinion, this bird being without doubt distinct from that of South Africa, as it also is from the *N. venusta* of Gambia and Sierra Leone; and the distinctions are accurately pointed out in the note quoted above. We regret, however, that the nomenclature proposed by M. Verreaux cannot be followed, *Le sucrier gamtocin*, Vaill., pl. 299, is the foundation of Vieillot's *N. collaris*, which must therefore be retained for the species of South Africa, and we cannot avoid applying some new title to its West African representative. Mr. Fraser's specimens all agree in the distinctions pointed out—a longer and much stronger bill, a much deeper green on the upper plumage and throat, tail nearly black. We have added characters and dimensions, of what we consider the two species, the one from Fraser's

Fernando Po specimens, the other from specimens procured from South Africa by Dr. Smith. In the Naturalist's Library Synopsis, p. 251, Fernando Po is given as a habitat for *N. collaris*, on the authority of Fraser. We do not now recal the circumstances, but suspect that the difference between the two birds was not then perceived. Dr. Hartlaub has not admitted this, nor *N. collaris* in his " Verzeichniss."

N. COLLARIS, Vieill. (1823).

Cinnyris collaris, *Vieill.* Enc. Method. ii. p. 590 (1823).——Sucrier gamtocin, ou a cordon blue, *Le Vaill.* Ois. d'Af. pl. 299. —— Nectarinia collaris, *Jard.* Nat. Lib. Synop. p. 251.

♂ *Above*, bright yellowish-green paler on rump; wings umber brown, edged with greenish-yellow; tail, greenish-black, broadly edged with deep green.—*Below*, chin, throat and upper breast, yellowish-green, shading into and terminating in a narrow band of blue glossed with violet; lower breast and flanks dull yellow, shading to clear yellow on the centre of vent and under tail-covers; axillary tufts pale yellow.

Length, 3̇ . 8̈ to 4̇ . 2̈; bill slender, length to forehead, 5̈; wing, 2̇ to 2̇ . 1̈.

Habitat, Gamtoos, South Africa, *Vaillant.*

N. HYPODILUS, Jard. & Fras. (Nov. 1851).

♂ *Above*, bright *bluish-green more yellow on the rump;* wings umber brown, edged with greenish-yellow; tail *bluish-black. Below*, chin, throat and upper breast, *bluish-green*, shading into and terminating in a narrow band of blue glossed with violet; lower breast and flanks dull yellow, shading to yellow on the centre; axillary tufts *yellow, conspicuous.*

Length, 3̇ . 8̈ to 4̇; bill *strong*, length to forehead, 6̈½; wing, 2̇ . 3̈.

Habitat, vicinity of Clarence, Island of Fernando Po, *L. Fraser.*

Another *Nectarinia* in the collection, which we have not previously observed, has the form and distribution of colours of *N. cyanocephala*, Vieill. Mr. Swainson, in his birds of Western Africa, hints at a suspicion, that the " *Soui-manga a tête bleu*," pl. vii., and the

Soui-manga Vert et Gris, pl. xxv. of the Ois d'or., may not be the same species. They are from different localities, and the blue of the head is described as of different shades. Plate xxv. does not agree with Mr. Fraser's birds, in wanting entirely any trace of a gular patch, but it may have been partially immature. It is certain however, that the two birds before us are quite distinct, and the present one does not seem to have been noticed previously. It differs in having coronal and gular patches only of deep shining blue, instead as in *N. cynocephala*, of that colour covering the whole head and breast, which besides in the latter is more violet tinted; in the upper plumage, instead of yellowish-green, being all of a dull grayish-black, and in the under parts being of a much paler tint.

N. CYANOLÆMUS, Jard. & Fras. (Nov. 1851).

♂ *Above*, dark grayish-black; crown and forehead, indigo with metallic lustre.—*Below*, brownish-gray, palest on vent and under tail-covers; chin and throat indigo with metallic lustre, forming an oval patch terminating upon the breast; axillary tufts very pale yellow.

Length, 5̇ . 5̈; bill to forehead, 9̈; wing, 2̇ . 9̈.

♀ *Above*, yellowish-green, more yellow on the rump; wings and tail umber brown, feathers edged with yellowish-green.—*Below*, grayish-brown; flanks, vent and under tail-covers greenish-yellow; gular patch indistinctly defined by a darker and browner tint.

Length, 5̇ . 3̈; bill to forehead, 8̈; wing, 2̇ . 6̈.

Habitat, vicinity of Clarence, Fernando Po, *L. Fraser*.

A third very beautiful *Nectarinia* we have not before seen. The bill is straighter than in general, and the bird somewhat *Anthreptes* like, still we consider it as strictly a *Nectarinia*.

N. TEPHROLÆMUS, Jard. & Fras. (Nov. 1851).

♂ *Above*, head, back and cheeks, bright bluish-green, with metallic lustre; rump and upper tail-covers dull yellowish-green; wings and tail deep brown, feathers edged with greenish-yellow.—*Below*, chin gray; throat and upper breast, bright green with metallic lustre, bounded beneath with an orange pectoral band; belly gray; flanks, vent and under tail-covers, greenish-yellow.

Length, 4̇ . 2̈; bill to forehead, 5̈; wing, 2̇ . 3̈ to 4̈.

♀ *Above*, yellowish-green, paler on rump.—*Below*, yellowish-gray, inclining to pale yellow on vent and under tail-covers.

Length, 4̇ to 4̇ . 2̈; wing, 2̇ . 3̈ to 4̈.

Habitat, vicinity of Clarence, Fernando Po, *L. Fraser.*

Psittacula pullaria, not yet recorded as occurring in Fernando Po, forms part of the collection.

There are three specimens of the *Bucco*, of which Mr. Fraser gave the characters in Proceed. Zool. Soc. 1843, p. 4, note. No specific name was then given to it; and as it appears not to have been noticed elsewhere, it may hereafter stand as—

BUCCO STELLATUS, Jard. & Fras. (1843) Nov. 1851.

Above, brownish-black, feathers tipped with yellow; wings and tail brown, feathers edged with dull yellow.—*Below*, yellowish-white, belly and vent dashed with yellow; bill black.

Length, 4̇ . 8̈; bill to forehead, 6̈; wing, 2̇ . 4̈.

Habitat, vicinity of Clarence, Fernando Po, *L. Fraser.*

We have once or twice received from Western Africa mutilated specimens of a small *Estrelda* which we set down as the *E. astrild* (Linn.) In Mr. Fraser's collection, however, we find two good and perfect specimens of a small species, which at first sight appeared like the South African bird, but upon comparison it showed some differences, and appears to be one of those western representatives which we have seen so largely running through the Ornithology of the two sides of that great continent. Nothing resembling this is mentioned in Dr. Hartlaub's list.

ESTRELDA OCCIDENTALIS, Jard. & Fras. (Nov. 1851).

Above, pale umber with very fine darker undulations; rump tinted with sienna; quills and tail umber; lores and region of the eyes vermillion.—*Below*, chin yellowish-white, shading to pale umber on vent and flanks—latter with fine darker undulations; under tail-covers black.

Length, 3.7 to 4; wing, 1.8 to 9.

Habitat, vicinity of Clarence, Fernando Po, *L. Fraser*.

CYPSELUS AFFINIS, Gray.

In a letter to Mr. Strickland, of 8th November, 1851, Dr. Hartlaub makes the following observations: —

"Have you ever compared specimens of Gordon's West African *Cypselus* with the Indian *C. affinis?* and do you finally regard them as one and the same species? I have now before me a fine adult specimen of the latter from the Himalaya, and several specimens of *C. abyssinicus*, Ehrenb. (Streubel in Isis, 1848) from St. Thomas's Island and the Gold Coast—which latter is certainly identical with Gordon's bird—and cannot but take them for two very nearly allied but *distinct* species. The differential points are these—the African bird has the beak broader and in general a little larger; the African bird is itself decidedly larger than *C. affinis;* the colour of the forehead is much *paler* in *C. affinis* than in *C. abyssinicus*, and the same is the case with the *tail*, which is lighter coloured in *affinis* than in *abyssinicus*. Pray communicate to me your opinion on this point. If both birds prove to be identical, then this instance of geographical distribution would be quite exceptional and extraordinary."

Upon receiving the above, we again carefully compared the Swift from Western Africa, which was procured by Dr. Gordon and referred by us to the Indian species in "Contributions" 1849, p. 5, with specimens of true *C. affinis* sent from different localities by Jerdon, Blyth, Hodgson, and Cleghorn. In the first and third of Dr. Hartlaub's differential points—the size of the bill, and different colour or shades of the forehead and tail, we can detect *no difference*. In the second point—the larger size of the African bird—the entire length of four Indian specimens is from 4̇.5̈ to 5̇.3̈; fork of the tail when slightly opened 2̈; wing 5̇ to 5̇.2̈. The entire length of the African bird is 5̇.4̈; fork of the tail when slightly opened 1̈½; wing 5̇ or 5̇.1̈. The length of any skin is so dependent on preparation, that the very slight differences as above cannot be considered as important; and looking at the whole specimens placed together, there is more discrepancy in strength or robustness between those of India than between any of them and the

African bird, and we cannot alter our opinion of their identity. We have never seen the bird known as *C. abyssinicus*, to which however Dr. Hartlaub refers Gordon's birds. It is possible *C. abyssinicus* may be distinct, and Gordon's specimen a straggling *C. affinis*. The common Quail is found over all the Old World. The common Wheatear and Skylark of Europe have lately been shot in Bermuda. We are inclined to the opinion, that the Indian bird extends to the African continent.

DESCRIPTIONS

OF

TWO NEW SPECIES OF *SYNALAXIS*

BY

T. C. EYTON, Esq., F.L.S. &c.

SYNALLAXIS OLIVACENS, Eyton.

S. dorso subtusque olivaceis, vertice nuchâque tectricibus alarum caudaque læté castaneis; rectricibus alarum pogoniis externis castaneis brunneo præpillatis, lineâ perocculari atrâ, gula jugulo pectoreque superiore cinereis singulis pennis albo marginatis.

Long. corp 6 in.; ros. fron. ½ in.; tarsi 10 lin.

Both the specimens I possess of this beautiful species of *Synallaxis* were received from South America, but I am not aware of the exact locality.

SYNALLAXIS MODESTUS, Eyton.

S. corpore toto alisque brunneis, gulâ maculâ castaneo-aurantiacâ, caudâ rectricibus quatuoribus externis pogoniis exterioribus castaneis.

Long. corp 6½ in.; ros. fron. ½ in.; tarsi 11 lin.

I am not certain from whence the above bird came into my hands, but believe it was from Bolivia. In one specimen the spot on the throat is much lighter than in the other; there is also a slight tinge of castanous on the under tail-coverts of the specimen, with the darkest throat, which is probably the male.

FURTHER NOTES

ON

BIRDS FROM THE RIVER GABOON IN WEST AFRICA

BY

H. E. STRICKLAND.

SOON after my former notice of some birds from the River Gaboon, at p. 131 *supra*, was printed, I received the "Revue et Magazin de Zoologie" for June and July, 1851, which contains the commencement of a paper by MM. J. and E. Verreaux, relating to the same collection of birds. Having fortunately adopted M. Verreaux's MS. names in my former paper, this double publication of the same species will produce little or no confusion of synonymy. I have, however, thought it desirable to publish, without loss of time, any annotations which may occur to me in collating these two independent and nearly simultaneous notices of the same objects.

"Revue et Magazin de Zoologie," 1851, p. 257.—M. Verreaux announces, as a recent discovery of the Prince of Canino, that two species of *Turacus* have been hitherto confounded under the Linnæan specific name of *persa*—the one with a green crest margined with red, and the other with the crest wholly green; and that the former is the true *Cuculus persa* of Linnæus. The fact is, however, that not *two* but *three* species have been thus confounded; and the rectification of this error is not so new as M. Verreaux supposes, for it is just ten years since I pointed out, in the Annals of Natural History, vol. vii. p. 33, that the species with a red-margined crest is the true *T. persa*, and that the green-crested one will stand as *T. buffoni*, Vieill. (1819), while to the third, or white-margined species, I gave the name of *T. albocristatus*. I will further remark, that I do not see why Prince Bonaparte has adopted the specific name, *purpureus*, attached *in manuscript* by Cuvier, to the specimen of the green-crested species in the Paris Museum, in preference to the name *buffoni*, long ago *published* by Vieillot. No *MS. name*, however venerable a one, can ever claim any authority over a name which has once been defined in a published work.

P. 259.—From the descriptions of *Chrysococcyx smaragdineus*, given by M. Verreaux, it appears that the specimen described at p. 135 *supra*, is a female. M. Verreaux states, that the Gaboon specimens differ from Senegal ones, only in having a shorter tail. He adds, that they arrive at the Gaboon in spring and disappear before the winter; but as that river is exactly under the equator, it would have been well if M. Verreaux had informed us what months of the year are here referred to, there being two summers and two winters annually in equatorial regions.

P. 262.—*Barbatula flavimentum*, Verreaux, is here described as new, the authors not being aware that it is synonymous with *B. subsulphurea*, Fraser.

P. 264.—*Halcyon badius*, Verreaux. This is the species decribed at p. 134 *supra*, as "*Halcyon cancrophaga* (Lath.)?". It is certainly distinct from the true *H. cancrophaga* (Lath.), which, however, seems to be only known from Buffon's Planches Enluminées, 334.

P. 269. — *Melittophagus cyanipectus*, Verreaux. The authors admit the resemblance of this species to *M. lefebvrei*, Desmurs, which I had identified with it at p. 135 *supra*, but assert its distinction on account of its smaller size and paler tint below. Be this as it may, the *M. cyanipectus* of M. Verreaux is certainly the same as *M. variegatus* of Vieillot, described in the Nouv. Dict. Hist. Nat., vol. xiv. p. 25, as found at Malimbe on the west coast of Africa.

P. 271.—M. Verreaux remarks of his *Ixos ashanteus (Pycnonotus ashanteus, supra* p. 132*)*, that it differs from *T. arsinœ* (*Pycnonotus barbatus*, Desfontaines, *mihi*), not only in the yellowish under tail-covers, but in the lighter tint of the head, a character which I had not noticed when I had an opportunity of comparing these two birds.

P. 306.—*Ixonotus guttatus*, Verreaux (see p. 132 *supra*). The genus *Ixonotus* is thus defined by the authors: "Plumæ uropygii rhachide robustissimâ. Alæ rotundatæ remigum primâ robustissimâ; secundâ longitudine, nonæ; tertiâ sextam æquante; quartâ et quintâ omnium longissimis. Cauda æqualis. Pedes brevissimi. Rostrum breve, gracile, compressum, subincurvum.

P. 307.—*Pratincola salax*, Verreaux. This is the species termed *P. olax*, at p. 133 *supra*, an error into which I was led by the obscurity of the writing on M. Verreaux's label.

P. 308.—*Hyliota violacea*, Verreaux. The authors have correctly referred this bird, which they originally designated *Muscicapa violacea*, to the genus *Hyliota* (see p. 132 *supra*).

P. 309.—*Platystira leucopygialis*. The authors state, that the *P. leucopygialis* of Fraser is the adult ♀, and his *P. castanea* the young ♀; and that the adult male differs in having a white semicollar at the back of the neck. It is however evident, on comparing their own descriptions with Fraser's figures in the "Zoologia Typica," that his *leucopygialis* is a male, though possibly an immature bird; and that his *P castanea* is the adult ♀.

P. 310.—*Atticora melbina*, Verreaux. *Hirundo melbina*, *supra* p. 131. This bird may perhaps be regarded as correctly placed in *Atticora*, though that genus seems to be little more than an artificial receptacle for several stray *Hirundinidæ* from all quarters of the globe, possessing the form but not the coloration of *Hirundo*.

ORNITHOLOGY IN 1851.

In pursuance of the plan to give a summary of Ornithological progress during the past year commenced with our last volume, we shall again endeavour to run over a short survey of what has been done by our own Ornithologists in 1851.

The all engrossing "Exhibition" may have had some effect upon the time of Ornithologists, as well as upon that of other persons devoted to particular branches of science, for we cannot bring forward any thing very striking that has been done, any important new work commenced, or any remarkable species discovered, as the *Notornis* and *Balæniceps* of the previous year; notwithstanding, however, the work has gone steadily on, and there appears to be no falling off in the zeal and activity of our collectors.

It was not, perhaps, in the way of the "Exhibition" itself, to advance Zoology by the bringing together of extensive collections, and nothing of novelty appeared there with the exception of some very beautiful specimens of bird-preserving. Mr. Hancock laudibly endeavours to render this more a work of true art, and to show that the poetry of design and composition might be combined with a faithful rendering of the position and attitude, beyond some polished stick, or mossed and sanded block, on which the specimen is perched up when it comes "finished" out of the hands of the general taxidermist; while the Zollverein groups shewed, that expression and even humour could be imbued; and were a little more attention given to the really natural expression and attitudes of the living animals, many interesting pictorial groups might be formed, which would illustrate manners and habits better than most of the written accounts we possess. It was also to the expected crowds for the Exhibition that we were indebted for the fitting up and public admission to Mr. Gould's extensive collection of Humming-Birds. No doubt they were open previously to any one interested; but we should not otherwise have seen them as a whole, and in their elegant arrangements, pointing out how each smaller group could, of itself, be made exceedingly interesting; and how the accompaniments of wax flowers, the modelling of which has now been brought to so great perfection, may enhance the value of the picture, and make it almost a real transcript of the vegetation of the tropics.

With the exception of "*Contributions to Ornithology*," the only illustrated works that have been published during the past year, have been those by Mr. Gould.

The Birds of Australia, Supplement, Part I.—Was early published, and contained figures of several of the species we have already had occasion to notice in the Ornithology of Section D at Edinburgh, in our volume for 1851. The contents are *Ptiloris victoriæ* and *magnificus*, *Menura alberti*, *Notornis mantelli* (New Zealand), *Microglossus aterrimus*, *Tanysiptera sylvia*, *Halcyon flavirostris*, *Specotheres flaviventris*, *Drymodes superciliaris*, *Ptilotis filigera*, *Aplonis metallica*, *Nectarinia australis*, *Machærinhynchus flaviventer*, *Monarcha leucotis*, *Arses kaupi*, *Pycnoptilus floccosus*—all of which, with the exception of the *Menura*, *Notornis*, and the last, formed part of the collections of the Rattlesnake, procured chiefly in the vicinity of Cape York, in Northern Australia.

Part III. only has been added to *The Birds of Asia*, containing—*Gyps bengalensis*, *Falco peregrinater*, *Ithaginis cruentus*, *Ammoperdix bonhami*, *A. heyi*, *Pterocles guttatus*, *P. coronatus*, *Otis macqueeni*, *Euphona personata*, *E. melanura*, *Mycerobas melanoxanthus*, *M. carnipes*, *Hesperiphona icteroïdes*, *Montifringilla arctoa*, *M. hæmatopygia*, *Ruticilla erythrogastra*, *Leiothrix luteus*.

Part II. of a Monograph of the Trochilidæ or Humming-Birds has been published, maintaining its excellence in every way.

We have still to regret the non-completion of the Ornithology of the Erebus and Terror. Government have more to do than merely proposing and having a grant voted. The great fault of nearly all the zoological works so patronized, is the time they are allowed to hang on, during the greater part of which the species are shut up from all inspection. The Zoology of South Africa, "Published under the Authority of the Lords Commissioners of Her Majesty's Treasury," commenced in 1838, and was only completed in 1850. The Zoology of the Beagle commenced same year, and was completed in 1844. The Zoology of Erebus and Terror, Part III., the first of the birds bears the date of 1844, and is now, 1852, incompleted. We perceive a new grant is proposed for the Illustration of the Rattlesnake's collections — When may we expect to see them illustrated?

A History of British Birds, by the Rev. F. O. Morris, B. A., has reached its XXth Number; and

A Natural History of the Nests and Eggs of British Birds, which we alluded to in our last year's summary, is in progress. The pale ground on which the light coloured specimens are figured does not relieve them.

The Birds of Ireland, by William Thomson, Esq. The third volume of this work we alluded to in our "Ornithology for 1850" as almost ready for publication. We soon afterwards received it. It is devoted entirely to the *Natatores*, and contains a detailed and excellent description of all the species hitherto observed on the Irish coasts and lakes, with whatever has come under the personal notice of the author, or has been obtained on good authority relating to their habits and economy, and sometimes the commercial and useful statistics of the different species. The volume is concluded with a summary of the British and non-Irish species, and of the Irish and non-British. We copy these lists, as being short, and have added an *S.* after the species which have been found in Scotland, the other thirteen being hitherto exclusively English. All, however, can only be looked upon as mere stragglers or occasional visitants:—

BRITISH AND NON-IRISH SPECIES.

Polish Swan	*Cygnus immutabilis*, Yarr.
Pinkfooted Goose	*Anser brachyrhynchus*, Bail. *S.*
Spurwinged Goose	*A. gambensis*, Linn.
Bimaculated Duck	*Anas bimaculata*, Penn.
Steller's Western Duck	*Polysticta stelleri* (Pall.)

Redcrested Whistling Duck	*Fuligula rufa*, Pall.
Ferruginous or Nyroca Duck	*F. leucophthalmos*, Bechst.
American Scaup	*F. marilöides*, Vig.
Harlequin Duck	*Clangula histrionica* (Linn.), *S.*
Buffel Headed Duck	*C. albeola* (Yarr.), *S.*
Caspian Tern	*Sterna caspia*, Pall.
Gull Billed Tern	*Sterna anglica*, Mont.
Ross's Gull	*Larus rossii*, Rich.
Laughing Gull	*L. atricilla*, Linn.
Bulwer's Petrel	*Thalassidroma bulweri* (Jard. & Selb.)
Wilson's Petrel	*T. wilsoni*, Bonap.

IRISH AND NON-BRITISH SPECIES.

Rüppell's Tern	*Sterna velox*, Rüpp.
White Winged Black Tern	*S. leucoptera*, Meisn. & Schinz.
Noddy Tern	*S. stolida*, Linn.
Bonapartean Gull *	*Larus bonapartii*, Rich. & Sw., *S.*

In an appendix winding up the work, there is an account of Irish decoys, which seem to be fast giving way before the drainage of the country. One fact is stated which we are not aware has been prominently brought forward before, the power of smelling among the *Anatidæ*, and that sense used for the purpose of self-preservation. A strong scent or odour of any kind seems to be felt, and prevents the working of the decoy. A spark falling on the shooting jacket of a person accompanying the decoyman, prevented by its smell any ducks being taken. "The smell of milk boiling over on the fire, in a farm-house perhaps 600 yards from the decoy, and the wind blowing from the house to the water, prevents a bird being taken the same day."

"It is of so much consequence to avoid any thing of this kind, that Mr. Skelton, Sen., who rents a farm of a thousand acres in connection with his decoy in Lincolnshire, forbids any cooking to be done in the house, sometimes for a few days, when the wind blows from it on the decoy."

---

* In Zoologist for May, 1851, there is a notice of a Gull shot on Loch Lomond by Sir George Leith, which Mr. Yarrell, "who has kindly investigated the matter, pronounces to be *L. bonapartii*."

There are some interesting notices also in the appendix of hybrid specimens, and upon the change of the colour of birds attaining their breeding plumage, which the author seems inclined to think is produced by the *moulting of feathers*, in opposition to the views and experiments of Mr. Yarrell.

Catalogue of the Menagerie and Aviary at Knowsley. Formed by the late EARL OF DERBY, K.G., 4*to*. It is arranged systematically, and has the localities of the specimens given. In our summary of last year, we had occasion to mention the name of Lord Derby among those who patronized and was of great value to the promotion of Ornithology. That nobleman died at Knowsley, and has left a blank which is not likely to be soon replaced. The successor to the headship of the family cares little for natural history, and the collection of living animals and birds has been dispersed by public sale. If retained by one having no personal love for zoology or interest in the collection, it would soon have died a natural death; but considering the comparatively small sum realized, the collection would have formed a noble gift to the Zoological Society, which has of late been so very instrumental in furthering our knowledge of the habits of animals, and of putting them within the reach of the almost daily observation of the public. Nevertheless, the funds of the society have enabled it to become the possessors of nearly all the more important birds which were awanting to its collection. The will of the late Earl contained a clause, requesting that Her Majesty should select one species for her own or the society's collection, and the Impeyan Pheasants, some of which were bred at Knowsley, was the species chosen. We could not attend the sale personally, but through the kindness of the secretary to the Zoological Gardens, we have been furnished with a "priced" catalogue, and are thus enabled to mention some of the more important purchases. The sale was numerously attended by delegates from foreign collections, and the lots being entered in their names, we cannot at present correctly trace some of their destinations, and very few private names appear among the purchasers. The total number of birds in the collection, exclusive of poultry, was—

Species.	Individuals.	Bred at Knowsley.	
318	1272	45	549

sold in 371 lots. The largest sum given for any lot, was for four *Cygnis nigricollis*, £160, for the Zoological Gardens. Next, that for Ostriches ♂ ♀, £70 and £60 respectively, purchased on commission. Mr. Mitchell purchased forty-six lots for the gardens, some of the more important of which are:—*Vultur monachus*, Linn., £7, 1s.; *Aquila vulturina*, £7; *Spizaëtus bellicosus* and *coronatus*, £16 each; *Casmarynchus nudicollis*, £2, 2s.; *Crax alberti*, Fraz., £12, 10s.; *Numida ptilorhyncha*, Licht., £6, 10s.; *Francolinus clappertoni*, £3, 3s.; *Grus caruncula*ta, £38; *Ocydromus australis*, £6, 10s., &c., &c. Some of the other more remarkable lots were—*Harpyia destructor*, Cuv., £25; a *Serpentarius*, £12, both abroad; *Bubo maximus*, brought £18; a *Dacelo gigas*, £3, 5s.; *Turdus (petrocincla) cyana*, sold to Sir W. Fielden for £7, 10s.; a *Coracopsis personata*, £21, and *Anodorhynchus maximiliani*, £10 and £16 (abroad); *Pionus gulielmi*, Jard., £3; *Plyctolophus leadbeaterii*, £9 and £11; *Talegallus lathami*, £14; *Phasianus versicolor*, £28; *Cygnus atrata*, about £7 each, &c.

Among the works which have been published in 1851, not strictly Ornithological, yet containing much of interest, we have—*Narrative of the Voyage of H.M.S. Rattlesnake, commanded by the late Captain Owen Stanley, R.N., during the years* 1846–50. *Including Discoveries and Surveys in New Guinea, the Louisiade Archipelago*, &c. *By* JOHN MACGILLIVRAY, F.R.G.S., *Naturalist to the Expedition*. 2 vols. 8vo. T. & W. Boone.—These interesting volumes, though bearing on the title-page the date of 1852, unquestionably come into our present summary, having been in our possession since the middle of December.* In our Contributions for 1850 we had occasion to notice the Ornithological part of the researches of Mr. Macgillivray during this expedition. The present two volumes contain a detail or journal of the transactions of the expedition itself, very interestingly told by its naturalist. The Ornithological notices are comparatively limited, as the birds were noticed in the Proceedings of the Zoological Society, and the new or more important species were figured in Supplement to Birds of Australia. But Mr. Macgillivray nevertheless deserves great credit from his attention to *all branches;* and in any new expedition, particularly to the Pacific, Government could not select a better workman.*

---

* Not sent to us by the publisher.

Thalassidroma leachii was met with, distributed between the Tropic of Cancer and latitude 5° 8′, a considerable extension of its known range.† Another of the petrels, the "Mutton Bird," *Puffinus brevicaudus*, was met with in great abundance at a breeding station, Goose Island. "A person walking across the island can scarcely avoid frequently stumbling among these burrows, from the earth giving way under his feet. About dark clouds of mutton birds came in from the sea, and we amused ourselves chasing them over the ground among their burrows; and as many specimens as I required, were speedily provided, by knocking them down with a stick." *Larus pacificus* and *Xema jamesonii* were also exceedingly plentiful.

On No. IV. of the Frankland Islands, *Columba antartica* was met with, extending the range of that species beyond the continent, and to 380 miles within the tropics.

At the Duchâteau Isles, birds were plentiful—*Megapodii* and Pigeons. The notice of the Nicobar Pigeon is interesting. "As its appearance exhibits a near approach to the Gallinaceous Birds, so do its habits. It lives chiefly on the ground, runs with great swiftness, and flies up into a tree when disturbed. A nest here was of the rude platform construction, usually found among the pigeon family. It was built upon a tree, about ten feet from the ground, and contained a single white egg.

The following notice of the habits of *Chlamydera cerviniventris*, Gould, is perhaps the first. "While watching in the scrub I caught several glimpses of the *Tewinga*, the native name, as it darted through the bushes in the neighbourhood of the bower, announcing its presence by an occasional loud *chur-r-r*, and imitating the notes of various other birds, especially the Leather-head. I never before met with a more wary bird, and for a long time it enticed me to follow it to a short distance, then flying off and alighting on the bower, it would deposit a berry or two, run through, and be off again before I could reach the spot. All this time it was impossible to get a shot. At length, just as my patience was becoming exhausted,

---

* Mr. Macgillivray has been appointed to the new expedition.

† See Observations on Geographical Distribution of the *Procellaria*. "Contributions," 1850, p. 94.

I saw the bird enter the bower and disappear, when I fired at random through the twigs, fortunately with effect.

In the narrative of Mr. Kennedy's disastrous expedition, we have the notice of the Cape York Cassowary, sufficient to identify it as such, but which we only yet know by this report, "This morning Jackey went to examine a scrub through which we wanted to pass, and while out, shot a fine *Cassowary*. It was very dark and heavy, not so long on the leg as the common Emu, and had a larger body, shorter neck, with a large, red, stiff, horny comb on its head. Mr. Wall skinned it; but from the many difficulties with which he had to contend, the skin was spoiled before it could be properly preserved." "January 7th, along with a shooting party I landed soon after daylight on the westermost Duchâteau island. Numbers of Nicobar pigeons left it as we approached, having apparently used it merely as a roosting place. We procured about fifty Pigeons and a few of Duperrey's *Megapodius*. In habits this last bird resembles the Australian species, especially in constructing enormous mounds for the reception of its eggs. Those which I saw, averaged five feet in height and fifteen in diameter, and were composed of the sandy soil of the neighbourhood, mixed up with rotten sticks and leaves, but without any shells or coral. Some were placed at the outer margin of the thickets, close to the beach, and others were scattered about more inland. This bird is apparently very pugnaceous at times, as I frequently saw them chasing each other along the ground, running with great swiftness, and uttering their cry more loudly than usual, stopping short suddenly and again starting off in pursuit. The cry consists of one or two shrill notes, uttered at intervals, and ending in a hurried tremulous cry, repeated five or six times. Its food is entirely procured on the ground, and consists of insects and their larvæ (especially the pupæ of ants), small snails, and various fallen seeds and fruits."

In the appendix to Vol. II. there is a "Catalogue of the Birds of the North-east Coast of Australia and Torres Straits." This is a mere list, arranged in three columns — 1st, That portion of the north-east coast of Australia and its islands, included between the Tropic of Capricorn and latitude 17° 45′ south, or the parallel of the bottom of the Gulf of Carpentaria; 2d, remainder of the north-east coast, as far to the southward as Cape York; 3d, devoted to the islands of Torres Straits, from Raine Islet to Bramble Bay.

These are useful to compare with other similar lists in the works of Strzelecki and Eyre; also with those of Gould. 171 species in all are noted; of these, 60 are peculiar to or confined to one or other of the localities. The chief numbers of restricted species belong to the second column, which has forty; the 1st, fifteen, and 3d only five.

Arctic Searching Expedition. A Journal of a Boat Voyage, &c. in Search of Sir John Franklin, by Sir JOHN RICHARDSON, C.B., F.R.S. 2 vols. 8vo. 1851, Longman.—The expedition under the charge of Sir John Richardson, well known not only as an accomplished zoologist, but as one of a former expedition, who by his prudence and energy, brought to a successful termination one of the most arduous journeys ever undertaken by man, wintered in high latitudes, and had opportunities at both spring and fall, of witnessing the migrations of birds that take place there so regularly; and from their mode of life, necessarily abroad at all hours, of seeing many species in their own haunts, which we know at home only by description, or at most by a skin, and we consequently find many interesting notices of habits, range and geographical distribution, interspersed throughout the work.

In the district between Lakes Superior and Winipeg, when the Aspens were just putting on the early leaves, they met constantly, since the 1st of June, with the *Fringilla leucophrys*. The "song has been heard day and night, and so loudly, in the stillness of the latter, as to deprive us at first of rest. It is a curious illustration of the indifference of the native population to almost any animal that does not yield food or fur, or otherwise contribute to their comfort or discomfort, that none of the Iroquois or Chippeways of our company knew the bird by sight. We were however enabled, after a little trouble, to identify the songster, his song, and breeding place."

At Halfmoon Lake, *Haliaëtus* was abundant, as it was throughout the watery districts of Rupert's Land. A nest may be looked for within every twenty or thirty miles. Each pair of birds seems to appropriate a certain range of country, on which they suffer no intruders of their own species to approach; but the nest of the Osprey is often placed at no great distance from that of the Eagle, which has no disinclination to avail itself of the greater activity of the smaller bird. The Pelican *(Pelicanus trachyrhynchus)* ranges as far north as Great Slave Lake, 60° 61′ north. These birds generally choose a rapid for the scene of their exploits, and commencing at the upper end, suffer themselves to float down with the current, fishing as they go with great success, particularly in the eddies. Their pouches are frequently so crammed with fish, that they cannot rise into the air until they have relieved themselves from the load; and on the unexpected approach of a canoe, they stoop down, and drawing the bill between their legs, turn out the fish. They seem to be unable to accomplish this feat when swimming, so that then they are easily overtaken and may be caught alive, or killed with the blow of a paddle. If they are near the beach when danger threatens, they will land to get rid of the fish more quickly. The Black-bellied Tern, *Hydrochelidon nigra*, ranges northward to the upper parts of the Mackenzie, and the *Sterna cayana* is common onwards to beyond the Arctic circle.

Sir John's opinion as to the American Cranes, at variance with that of Audubon, is also of importance. Mr. Rae killed specimens of the Brown Crane, *Grus canadensis*, " but though I concede that the young of the latter are *grey*, I think that the *brown* species is distinct; first, because it is generally of larger dimensions than the white bird; and secondly, because it breeds on the lower part of the Mackenzie, and near the Arctic coasts, where the *G. americana* is unknown. As far as I could ascertain, the latter bird does not go much farther north than the Great Slave Lake."

At Big Island, at the western outlet of Great Slave Lake, the Barking Crow, *Corvus americanus*, was met with for the last time. In the *Fauna Boreali Americana* I have stated, that it does not range beyond the 55°; but more correct information, received on the present voyage, enables me to carry its northern limit on to the 61°. " It becomes rare before it ceases altogether to be seen."

" The river of the mountains marks the northern limit of the American Magpie, Say's Grouse, and the White Crane, *Grus americana*."

Still farther north we have these observations on the Ornithology of Great Slave Lake and the Mackenzie: " The general aspect of the forest does not alter in the descent of the Mackenzie. There is, in fact, notwithstanding the near neighbourhood of the Arctic Circle, no want of flowering plants to engage the attention of a student of nature; and many of the feathered inhabitants of the district recall to the traveller, or resident fur trader, pictures of southern domestic abode. The cheerful and familiar *Sylvia (Sylvicola) æstiva* is one of the earliest arrivals in spring, coming in company with the well known American Robin (*T. migratorius*), and the Purple and Rusty Grackles. A little later, the varied Thrush makes its appearance from the shores of the Pacific. The White-bellied Swallow *(H. bicolor)*, breeds at Fort Norman, in holes of rotten trees; and the *Sialia arctica*, a representative of the Blue Bird, so common in the United States, enlivens the banks of the Mackenzie; coming however, not from the Atlantic coasts, but from the opposite side of the Rocky Mountain range. On the Mackenzie there is an intermingling of the floras of both coasts, as well as of the migratory feathered tribes, the rocky mountain range not proving a barrier to either."

"One of the birds which we traced up to its breeding places on Bear Lake River, but not to the sea coast, is the pretty little Bonapartean Gull (*Xema bonapartii*). This species arrives very early in the season, before the ground is denuded of snow, and seeks its food in the first pools of water which form on the borders of Great Bear Lake, and wherein it finds multitudes of minute crustacean animals and larvæ of insects. It flies in flocks, and builds its nests in a colony resembling a rookery, seven or eight on a tree; the nests being formed of sticks laid flatly. Its voice and mode of flying are like those of a Tern; and like that bird, it rushes fiercely at the head of any one who intrudes on its haunts, screaming loudly. It has, moreover, the strange practice, considering the form of its feet, of perching on posts and trees, and it may often be seen standing gracefully on the summit of a small spruce fir.

"The insectivorous habits of this bird, and its gentle familiar manners, contrast strongly with the predaceous pursuits and voraciousness of the Short-billed Gull (*Larus brachyrhynchus*). If a goose is wounded by our sportsmen, these powerful gulls directly assailed it, and soon totally devoured it, with the exception of the larger bones."

The Harlequin Duck (*Clangula histrionica*) also frequents Bear Lake, but is comparatively rare in other districts, and is not easy of approach. It congregates in small flocks, which, alighting at the head of a rapid, suffer themselves to glide down with the stream, fishing in the eddies as they go. The Osprey and White-Headed

Eagle build their nests on the banks of Bear Lake River, and the Golden Winged Woodpecker migrates thus far north." A Peregrine Falcon's nest was discovered on the cliff of a sandstone rock. "This Falcon is not rare throughout the Mackenzie, where it preys on the passenger pigeon and smaller birds. One of its feats was related by Mr. M'Pherson: 'A White Owl (*St. nyctea*), in flying over a cliff, seized on and carried off an unfledged Peregrine in its claws, and crossing to the opposite beach, lighted to devour it. The parent bird followed, screaming loudly, and stooping with extreme rapidity, killed the owl by a single blow, after which it flew quickly back to its nest.' "

Sand martens breed in multitudes along the whole course of the Mackenzie, but I was unable to procure a specimen, and therefore to decide whether it is the *H. riparia* or *H. seripennis* of Audubon; but from its nearly even tail, I rather incline to think it may be the latter. It was first seen by us on 28th May, as we were descending the river Winipeg, near the 50°, and we knew by our observation in 1826, that it reaches the Delta of the Mackenzie in the beginning of July, affording therefore an index to the progress of spring in different latitudes."

"The Canada Geese or "Bustards" of the Canadians (*les Outardes*), breed throughout the woody districts (of the Coppermine), but do not reach the vicinity of the Arctic Sea, except on the banks of some of the large rivers. The most northern localities in which we observed them, were the channels between the alluvial islands which form the Delta of the Mackenzie."

After passing their long winter at Fort Confidence, 66° 54′ north latitude, and 118° 49′ west longitude, observations were kept of the arrival of the summer birds, as they gradually approached their breeding stations. "On 20th April, signs of snow softening on the south side of the house, contiguous to the walls, was perceived. Snow birds arrived in small flocks, and on 27th, snow began to melt in sheltered places. Ospreys, Gerfalcons, Eagles and Gulls, appeared on the 17th May. On 19th the first Goose was seen.*

The geese approach the high latitudes as soon as the swamps are

---

* Many interesting remarks will also be found in the chapter of the Appendix devoted to "Climatology;" but while they will repay those interested in the migratory laws, they are too detached to copy, and we give the reference, vol. ii. p. 212 to 263, Appendix.

Digitize

uncovered, when they feed on the undeveloped stalks of the cotton grass and other *Cyperaceæ*. Their arrival is thus an indication of the progress of spring, and frosty weather will sometimes drive them back for a week or so to a milder district. The impulse, however, by which they are urged to their breeding stations is so uncontrollable, that in backward seasons they are driven to the sea coast before the snow is gone, and then, from want of food, they are in a very lean condition. Their incubation, the fledging of the goslings, and the moulting of the parents, has to take place before the end of August, when old and young pass southwards to spend the winter in more genial climes. An indelible attachment leads them back to their natal places, and the ensuing summer sees them winging their way northwards in cuneal bands, with unerring instinct. Their arrival in a district enlivens white man and Indian. During their passage, plenty reigns in every encampment; and the dingy pot-bellied children, run about with smiling greasy faces, brandishing in each hand the leg or wing of a goose.

The Canada geese come in the van, and remain breeding in the woody country; snow geese next arrive and pass onwards to Wollaston's Land; then the laughing geese come and go, holding a north-west course; and at the same time with the latter, the Hutchin's geese speed to the coast.

On the 22d, pin-tailed ducks were seen; on the 24th, swans; and on the 30th and 31st, large flocks of snow geese and brown cranes passed northwards. On the 1st of June, bees, sandpipers, long-tailed ducks or cacawees, eider and king ducks, and northern divers, were seen; the catkins of the earliest willows also burst their envelopes on this day. On the 5th, teal, widgeon, scaup-ducks, shovellers, and jagers arrived; but on the 8th, the fur of the polar hare was still white.

The progress of spring at Fort Confidence, subsequent to the 7th of May, is recorded from Mr. Rae's notes, as on that date Mr. Bell and I commenced our journey southwards.

To contrast with the above dates of the arrivals of the migratory birds at Fort Franklin, in the same season, are here added, the difference of latitude between the two places, being a degree and three quarters.

" On the 11th of May, under a hot sun, a pool of water had formed on the ice near the Bay of the Deer Pass. We bivouacked on the shore beside it, and had not yet arranged our sleeping places when a Canada goose alighted in the pool. On the 14th the Indian saw gulls; on the 18th, snow geese and various small birds came, together with the pretty little gull, named *Xema bonapartii*, which, in large flocks, sought for insects in the open water now forming along the shores of the smaller lakes. On the 22d, bands of snow geese passed to the north-west, flying high. They evidently found the country about Fort Franklin still too closely wrapped in its winter garb, and were winging their way to the valley of the Mackenzie, where the season is earlier.

Geese, according to Mr. Bell's information, arrive at Peel River Fort, upwards of two degrees farther north, from the 12th to the 15th of May, rarely varying above a day or two, the 15th being the date of their coming in backward seasons. At that time they find the marshy places bare of snow, and can procure the roots of bents and other plants on which they feed. There, as elsewhere, the Canada Geese precede the snow geese a day or two. The Hutchin's geese (commonly called " Eskimo geese" in Rupert's Land) come later, and pass high overhead towards the north. The Indians believe that a small finch (*Plectrophanes lapponica*) avails itself of the strength of wing of the Hutchin's goose, and nestles among its feathers during its flight. When a goose is shot, they often see the small bird flying from it. Neither Mr. Rae nor I noticed such an occurrence, nor did I obtain a confirmation of it from the personal observation of any of the gentlemen resident in the country; but it is generally affirmed by the Indians. The laughing geese passed Fort Franklin a few days later than the snow geese, but a single individual was often seen some days before the arrival of the main body, associated with a flock of snow geese, and generally acting as leader, by assuming a station in the apex of the angle in which they fly. About the same time the American Robin or migratory thrush, came with the Yellow-poll and Black and Yellow Warblers (*Sylvia æstiva et maculosa*). The latter fed on the berries of the Alpine Arbutus, as did likewise the Golden Plovers, whose stomachs also contained the juicy fruit of the *Empetrum nigrum*. The Eskimo Curlew at this time fed on large ants. It would appear that these insects descend to the stomachs of the curlews alive, since I found that several, having taken fast hold of the lining of the gullet with their mandibles, remained sticking there, and even after death, required some force to detach them. The Tree Bunting (*Fringilla canadensis*), Black Finch (*F. hyemalis*), and White Crowned Finch (*F. leucophrys*)—(I have already mentioned the nocturnal song of this bird, which breeds throughout Rupert's Land. In attempting to express its clear loud notes by syllables, the nearest approach I could make, was *cheet, cheet, tareet, cheet, cheet.* The first two syllables are loud and high, the next two short, and the two last lower and softer)—were also early visitors, and soon after their arrival, began to construct their nests. The Lapland finch was also seen, but only on its passage to the coast. The *Lestris richardsonii* flew about in pairs, and was observed to have the habit of quartering the ground like the Hen Harriers. In the stomach of one which I killed, there was the skin and some of the bones of a mouse rolled into a ball, like the pellets that are rejected from the stomach of an owl. The Purple Throated Diver visited Bear Lake River in considerable numbers. This species is easily distinguished from the great Northern Diver (*C. glacialis*) while flying, by its swollen bluish-grey neck. Almost all the summer birds arrived before we left that neighbourhood; but I have enumerated only the earliest comers, or those which I had not previously seen in so high a latitude, and whose range is not correctly given in the *Fauna Boreali Americana.*"

A Naturalist's Sojourn in Jamaica, by PHILIP HENRY GOSSE, A.L.S., &c. 1851. Longman.—Mr. Gosse recorded the habits of the birds in his "Birds of Jamaica," and the present work, devoted to information of a more general kind, relative to all the productions of the island, both animal and vegetable, gives us only an occasional paragraph connected with Ornithology; more valuable, however, as the result of observations made on the spot.

Of singing birds, alluding to the now obsolete theory, that bright plumage is incompatible with brilliant song: "In Jamaica it is certainly very far from truth. The groves and fields of this sunny isle ring with the melody of birds to a degree fully equal, in my judgment, to that of Europe. In the lone forests of the mountain heights, the Glass-eye Merle (*Merula jamaicensis*) pours forth a rich and continued song; and that mysterious harmonist, the Solitaire (*Ptiliogonys armillatus*), utters his sweet but solemn trills, long drawn and slow, like broken notes of a psalm, so perfectly in keeping with the deep solitude. In the wood that covers, as with an ever verdant crown, the lower hills, the Black Shrike (*Tityra leuconotus*), and the Cotton-tree Sparrow (*Pyrrhula violacea*), enunciate their clear musical calls, so much alike as scarcely to be distinguished; four or five notes running up the scale so rapidly, as to be fused as it were together, and suddenly falling at the end." Again, "The most minute of birds, the tiny Vervain Humming-bird (*Mellisua humilis*), not larger than a schoolboy's thumb, utters a song so sweet, but of sounds so attenuated withal, that you wonder who the musician can be, and are ready to think it the voice of an invisible fairy, when presently you see the atom of a performer perched on the very topmost twig of a mango or orange tree, his slender beak open, and his spangled throat quivering as if he would expire his little soul in the effort."

Mr. Gosse also writes of the Mocking-bird (*Orphæus polyglottis*), as equalling all the encomiums passed upon its song by Wilson: "If all the birds of Jamaica were voiceless except the mocking-bird, the woods, and groves, and gardens, would still be every where vocal with his profuse and rapturous songs." The Water Thrushes (*Sieurus*), and the Wood Thrush (*T. mustelinus*), are also among the admired songsters; and these, mingled with the plaintive notes of some of the doves and pigeons, place Jamaica in a high position as to the qualifications of its ornithological musicians.

Proceedings of the Zoological Society of London, with Illustrations. No proceedings have been published during the past year, which we regret, as there are some interesting ornithological papers that ought to have been given.

Annals and Magazine of Natural History, including Zoology, Botany and Geology, vols. vii. viii.—*Notes on some Bones and Eggs found at Madagascar, in recent Alluvia, belonging to a Gigantic Bird. By* M. ISIDORE G. ST. HILAIRE. Translated from the Comptes Rendus.—*Letter from* MATHEW MOGGRIDGE, *Swansea, on Larus tridactylus*, picked up dead, 28th February, in Swansea Bay. Several others washed ashore.—*Visit to the Cave of the Edible Bird's Nests, from* Mr. EDGAR LAYARD'S *Journal.*—*Notices of One or Two of the rarer Birds found in the South of Scotland. By* JOHN ALEXANDER SMITH, M.D. A paper read before the Royal Physical Society of Edinburgh. *Lanius excubitor, Bombycilla garrula, Picus major,* were killed in Roxburghshire. — *On Cephalopterus ornatus. By* ALFRED R. WALLACE. From Proceedings (1850) of Zoological Society.

The Zoologist, a Popular Miscellany of Natural History, conducted by EDWARD NEWMAN, F.L.S., Z.S., &c. 8vo. Vol. IX. The volume has been again concluded. There are few ornithological papers, but a large amount of notices and memoranda of the occurrence of migratory species, and of rare birds, which the increased attention brings more frequently to light. — *Notes on Observations in Natural History during a Tour in Norway, by the* Rev. A. C. SMITH, M. A., concludes the ornithological portion, and gives some notices of the habits of the birds. The common partridge was not observed north of Christiana. The little *Totanus hypoleucus,* " when flitting about the mountain streams, frequently perched on the tops of the larch trees, as here it is wont to do on some rail or post. The foreign birds recorded as killed in Britain, such as *Orpheus polyglottis,* and *Vidua crysonotus,* we can only view as escaped specimens. There are numerous references to the occurrence of migratory species, such as *Ruticilla tithys, Alauda cristatus, Motacilla neglecta,* &c., tending to show that they are not so very uncommon as was supposed. The Rev. Mr. Smith, Monquhitter, records a specimen of the Stork having been killed in Aberdeenshire in 1837-8. The little gull has been killed at Lewes, Wester-super-Mare, and Derbyshire. The occurrence of the Black Woodpecker, *P. martius,* near Safron, Walbeck, in 1847, is recorded.

The Naturalist, a Popular Monthly Magazine, illustrative of the Animal, Vegetable, and Mineral Kingdoms. Conducted by BEVERLEY R. MORRIS, Esq. A. B., M. D., T. C. D., &c. — Another periodical, purposing to convey natural history in a popular manner, contains short papers, reviews and notices of books, and a large portion of anecdote and memoranda. The difficulty in all periodicals of this kind, is that of selection, and by so doing, the risk of disobliging correspondents and subscribers. The great proportion of short contributions are admitted, and the mass contains articles of various degrees of importance. In the first number, there is a paper on the submergence of birds by the editor, and a notice of the occurrence of certainly one of our rarest visitants, the Black Woodpecker; and where the communicator, Mr. Mackintosh, Charminster, records the breeding of the bird in the hole of an old brick wall, at Claremont in Surrey. He mentions also having met with the birds at Cherborough Park in Dorsetshire; and from these, with the notice referred to before, from the Zoologist, several instances of its occurrence have been added to those mentioned by Mr. Yarrell and others. A "Fauna of Falmouth," by W. P. Cocks, contains a list of the birds met with; and an "Ornithology of Lincolnshire," by the Rev. R. P. Allington, would be an acquisition, even yet, if more extended. No county in England has been more changed by drainage, and a good account of its fens and their inhabitants, as they existed forty or fifty years since, would be very interesting. The Waxwing still continues to be very frequently recorded, and seems on all occasions persecuted to the utmost. From the various notices in the present periodical and the Zoologist, *Thalassidroma leachii* is the Petrel most commonly picked up, always dead or in an exhausted state. *Phœnicura tithys* has been taken at Cullen in Banffshire.

Zoological Society of London, August to December, 1851. REPORT OF THE SECRETARY. We have much pleasure in quoting the first sentence of the report. "The progress of the Society's affairs since my last report has been continuously prosperous." From our notice of the sale at Knowsley, it will have been seen that many very interesting additions were made to the aviaries of the Zoological Society; but another was received, almost at the end of the season, of very great interest, that of the New Zealand Kiivi or *Apteryx*. It is thus noticed by the Secretary: "Professor Owen has presented this valuable bird to the Society, in the name of Lieutenant-Governor Eyre. This singular genus, of which three species are known, is strictly nocturnal in its habits; is utterly incapable of flight; has merely the rudiments of a wing; has diminutive eyes; very imperfect vision by day; and has its legs so far back, that when standing in any other than an erect position, it appears to be obliged to have recourse to its beak as an additional support. The peculiar texture of its feathers, and the globular attitude in which it reposes, gives the Kiivi, at first sight, the air of some strange mammal, rather than the aspect of a bird." We shall look forward to some future details on its habits in confinement.

Another important discovery, or rather re-discovery, has been made in the stores of the Zoological Society. When Mr. Strickland was working at the "Dodo and its Kindred." The bones which Mr. Telfair had procured from the island of Rodriguez, and presented to the Society, could not be found. Like many other valuables, they had been put too carefully past. Lately, however, they have been re-discovered by Mr. Bartlet, and have been again laid before the meetings of the Society. These will very probably be figured in their Transactions; and they are now intrusted to the care of Mr. Strickland, from whom we hope to have a detailed account of their relations. He writes, "I am of opinion, that they belong to two species, a larger and smaller. The larger I consider to be the Solitaire of Leguat, and I call it *Pezophaps solitaria;* the smaller one *P. minor.* From the disparity in size, we believe they will have belonged to more than one species of Didiform bird.

Our notices of *Scolopax brehmi* have again attracted the sportsmen, and by the attention of Captain Robertson, 31st Regiment, we have lately received two specimens, shot in the vicinity of Ballyshannon, having sixteen feathers in the tails, the exterior rectrices being slightly lengthened. They are extremely close, in other respects, to the common form of Snipe, but shew the greater degree of mottling on the inner webs of the quills, and the greater extent of white upon the tips of the secondaries alluded to—" Contributions" 1850, p. 17.

REMARKS

ON

DENDROCOLAPTINÆ,

WITH

DESCRIPTIONS OF TWO NEW GENERA AND SPECIES.

By T. C. EYTON, Esq., F.L.S., F.Z.S., &c.

THE above mentioned family of birds has been very variously classified; by Mr. Swainson they were included among the *Certhianæ*, by Mr. Gray they have been made into a separate sub-family, which appears to be their natural rank. The latter author, however, has suppressed several genera which appear to be distinct, and sufficiently defined, such as *Dendrocops* and *Dendroplex* of Swainson. Mons. Lafresnaye, in his admirable papers on the group, contained in the Revue et Magazin de Zoologie, divided them into eight genera, and in a former number of these Contributions I added another under the name of *Dendrexetastes* to these. I propose to add two more, *Drymornis* and *Dendrornis*. The latter genus comprehends all the straight billed species, classed by Mons. Lafresnaye under *Nasica*, thus restricting that genus to *N. longirostris*. The former genus comprehends *Nasica bridgesii*, figured in the Contributions, and *Xiphorhynchus pucherani*, figured in O. des Murs Iconographic Ornithologique. The family contains about sixty well defined species, which I propose to divide as follows:—

DENDROCOLAPTES, Herm.

Bill arcuated, laterally compressed, of moderate length, not notched at the tip, strong, the birds of large size, fourth quill-feather longest.

temminckii, Lafres.
promenopyrhynchus, Lafres.

simpliciceps, Rich. et Lafres.
perrottii, Lafres.
devilii, O. des Murs.
lineatocephalus, G. R. Gray.
albicollis, Veill.
major, Veill.

Dendrocolaptes crassirostris, Such.—is a synonym of *D. albicollis*.

PICOLAPTES, Less.

Bill of the same form as in *Dendrocolaptes*, but not so strong and smaller; birds of small size; third quill the longest.

tenuirostris, Spix.
angustirostris, Veill.
bivittatus, Licht.
squamatus, Licht.
triangularis, Lafres.
fuscus, Veill.
albolineatus, Lafres.
souleyetii, Lafres.
affinis, Lafres.
lacrymiger, Lafres.
notatus, Nob.
validirostris, Nob.
atripes, Nob.

Mons. Lefresnaye also includes in *Picolaptes*, *Xiphorynchus leucogaster*, Swainson. The descriptions however given of that species, and *Xiphorynchus flavigaster*, in the birds of Mexico, are so short, that I am unable to make out to what birds they refer. *P. leucogaster* is somewhat like my *atripes*, but differs considerably in the length of the bill.

XIPHORHYNCHUS, Swain.

Bill very long, much arcuated, slender, and laterally compressed, third, fourth, and fifth quill-feathers of equal length.

lafresnayanus, D'Orb.
procurroides, Lafres.
procurvus, Temm.
trochilirostris, Licht.

DRYMORNIS, Eyton.

Bill long, moderately arcuated, slender, somewhat quadrate, one of the angles forming the upper ridge, fourth quill longest.

bridgesii, Nob.
pucherani, Lafres.

NASICA, Less.

Bill very slightly arcuated, long, laterally compressed, the tip notched, fourth quill longest.

longirostris, Licht.

DENDRORNIS, Eyton.

Bill nearly straight, of moderate length, the upper mandible hooked at the tip, fourth quill longest.

susurrans, Jard.
obsoletus, Licht.
ocellatus, Lafres.
d'Orbignanus, Puch.
multistrigatus, Deville et O. des Murs.
gullatoides, Lafres.
pardalotus, Lafres.
guttatus, Licht.
ebeneirostris, Less.

Xiphorhynchus flavigaster, Swain., has been referred by Mons. Lafresnaye to *ebeneirostris*; the bill, however, differs much in length. *beauperthuysii*, Lafresnaye, is a synonym of *susurrans*, Jard.

DENDROCOPS, Swain.

Bill of moderate length, depressed, notched at the tip, not laterally compressed, fourth quill longest.

atrirostris, Lafres.
fumigatus, Licht.
platyrostris, Spix.
multistrigatus, Nob.
tyranninus, Lafres.
cayanensis, Licht.
merula, Licht.
meruloides, Lafres.
olivaceus, Nob.

Dendrocolaptes fortirostris, Such., appears to be a synonym of *platyrostris*, Spix, as also does *validus*, Tschudi.

DENDROPLEX.

Bill short, straight, not bent downwards at the tip, or notched; third, fourth, and fifth quills, of nearly equal length.

picirostris, Lafres.
picus, Licht.

Dendroplex rufus, Veill., is a synonym of *picus*.

GLYPHORHYNCHUS, Pr. Max.

Bill short, the upper mandible rounded horizontally, and flattened at the tip; second, third, fourth, and fifth quills, of nearly equal length; size small.

cuneatus, Spix.

DENDREXETASTES, Nob.

Bill strong, thick and short, not laterally compressed or depressed, pointed.

capitoides, Nob.

SITTASOMUS.

Bill of moderate length, the upper mandible bent downwards at the tip, broad at the base, and slightly compressed towards the tip.

griseus, Jard.
amazonus, Deville et O. des Murs.
sylvioides, Lafres.
erythracus, Licht.

The following birds have been placed in this subfamily, but do not belong to it :—

Picolaptes capistratus, Less. *Picolaptes brunneicapillis*, Lafres. *Picolaptes scolopaceus*, Lafres. *Picolaptes zonatus*, Less. *Picolaptes megalopterus*, Lafres.

And according to Mons. Lafresnaye, the following mentioned in Mr. Gray's genera of birds :—

Dendrocolaptes maculatus, *Picolaptes superciliosus*, *Picolaptes miniatus*, *Picolaptes albogularis*.

DENDROCOPS OLIVACEUS, Eyton.

D. supra subtusque læté olivaceo-brunneo; alis caudâque ferrugineis, gulâ palidiore, rostro aterrimo.

Long. corp. 9.5; ros. from 1.2; alæ, 5; tar. 1.

The above bird may be distinguished from all the other species of this genus, except *cayanensis*, by its superior size. It is of a rather brighter tint of colouring than *fumigatus*, and is entirely destitute of superciliary stripes.

PICOLAPTES NOTATUS, Eyton.

P. rostro valido corneo, cultrato, parum arcuato; capite brunneo-atro, pennis singulis in medio maculâ oblonga rufo-flavâ notatis; dorso olivaceo-brunneo, maculis rufoflavis elongatis lacrymiformibus notatis; subtus olivaceus, gulâ pectoreque mediis pennarum maculis squamiformibus notatis, alis caudaque ferrugineis.

Long. corp. 8̇; ros. from 1̇; alæ 4̇; tar. 6̈.

In the disposition of the colouring this bird very much resembles *Dendroplex picus*, but the bill is that of *Picolaptes*.

NOTE

ON

GENUS *DROMAS*, PAYKUL.

WE have a letter from Mr. Blyth of Calcutta, containing some remarks on the *Dromas ardeola* of Paykul, which will be interesting to Ornithologists, whatever may be the place ultimately assigned to it in our system.

"I have received (from Ceylon) an immature specimen of *Dromas ardeola*, which I think reveals the true affinity of this extraordinary genus, which could never be approximated to any genuine *Grallæ*. It is neither more nor less than a *Tern* of most anomalous and extraordinary proportions, most nearly affined to the gull-billed form, *Gelochelidon*, just as the Flamingo is a remarkable form of *Anatidæ*. Now the Gulls and Terns, as a great group, are decidedly nearly affined to that constituted by the Plovers and Snipes, as exhibited by their anatomy, eggs, young, &c., and also by the seasonal changes of *Hydrochelidon*, *Sterna melanogaster*, &c., as compared with those of various Plovers and Tringæ."

We hope soon to be able to give figures of the young or immature state of this bird as well as of the eggs.

ORNITHOLOGICAL NOTICES

By H. E. STRICKLAND.

ON A NEW SPECIES OF *COCCYZUS* FROM TRINIDAD.

COCCYZUS PUMILUS, Strickland.

Plate LXXXII.

Above, pale brownish-grey, wings darker, tail fuscous near the base, the rest black, narrowly tipped with white. Chin, throat, and upper breast deep chestnut rufous; rest of lower parts and lower wing-covers pale fulvous. Beak black, legs bluish.

Total length, 7̇ . 3̈; beak to front, 8̈; to gape, 1̇; wing, 4̇ . 2̈; medial rectrices, 3̇ . 7̈; external, 3̇; tarsus, 9̈.

Habitat, Trinidad.

Remarkable for its small size and moderately rounded tail.

I may remark, that Dr. Hartlaub and the Prince of Canino unite the "Coucou" of Azara, No. 267 (*Coccyzus melacoryphus*, Vieill.) of Paraguay and Chili to the *Coccyzus minor* (Gm.), (*C. seniculus*, Lath.), of Cayenne, the West Indies, and the United States. They are however quite distinct, the *C. melacoryphus* being smaller, the beak much shorter and wholly black, while *C. minor* has the basal half of the lower mandible yellow.

ORNITHOLOGICAL NOTES

BY H. E. STRICKLAND.

V.—ON TWO SPECIES OF *TODIROSTRUM.*

PLATE LXXXV.

Mr. **SCLATER** recently sent me a specimen of a *Todirostrum* which he believed to be new, but on a close comparison of it with the *T. granadense* of Dr. Hartlaub, described in the Revue Zoologique, 1843, p. 289, I am of opinion that it is referable to that species. In fact, the only discrepancy between them is, that Dr. Hartlaub describes the throat as "obscurè cinerea," while in Mr. Sclater's specimen it is fuscous or approaching to black; and that Dr. Hartlaub omits to mention the white patch which follows this dark throat, and blends into the light cinereous of the breast.

Mr. Sclater describes his bird as follows—

"T. suprà olivaceo-viride; fronte medio cinereo; maculâ magnâ utrinque inter rostrum et oculum albâ; pennis caudâque nigrescentibus olivaceo limbatis; subtùs, gulâ fusco-nigrescente; jugulo et ventre albis; pectore cinereo; lateribus olivascentibus; flexurâ, tectricibus subalaribus crissoque pallidè flavis; rostro nigro; pedibus carneis.

Long. tota, $\dot{3} . \ddot{7}$; alæ, $\dot{1} . \ddot{9}$; rostri, $\ddot{4}\frac{1}{2}$; caudæ, $\dot{1} . \ddot{6}$.

This *Todirostrum* differs in style of plumage from any other species that I am acquainted with; it agrees in structure and form with *T. gulare* (Temm.). It has a large round white spot before the eye like *T. diops* (Temm.), but may be distinguished from that bird by the peculiar markings of the under plumage. The throat is fuscous black, next follows a triangularly shaped spot of the same pure white as the belly, while the breast is crossed by a broad cinereous band, which passes at the sides into olivaceous green. The bird is believed to be from New Grenada."

As a companion to the above, I add a species of *Todirostrum* from my own collection, of which I can find no description. It was purchased in a collection of Bogota Birds.

TODIROSTRUM MULTICOLOR, *Strickland.*

Crown, cheeks, and ear-covers, deep rufous or chestnut, paler on the chin; anterior margin of the eyes and a spot beneath the ear-covers black; a large patch of cream-colour on the throat, followed by a narrow black band on the breast; rest of lower parts bright yellow. The chestnut crown is margined on the temples and occiput by black, followed by a cinereous band on the hind neck; back yellowish olive; wing-covers, remiges, and rectrices, fuscous, margined with olive yellow; beak blackish; legs pale brown.

Total length, 3̇ . 5̈; beak to front, 4̈½; to gape, 6̈; breadth, 2̈; height, 1̈; wing, 1̇ . 8̈; medial rectrices, 1̇ . 3̈; external, 1̇ . 1̈; tarsus, 6̈.

VI.—ON A NEW SPECIES OF *NECTARINIA.*

PLATE LXXXVI.

IN a collection of birds procured on the shores of the Red Sea, and on the east coast of Africa by James Daubeny, Esq., Surgeon, H. E. I. C. S., are two specimens of a small *Nectarinia*, which appears to me to be a new species. A label attached gave their locality as "Ras Hassoun, African coast." This I presume to be the headland marked "Ras Hafoun" on Arrowsmith's map, near the extreme easternmost point of the African continent, and in the region of Somauly, which has never yet, I believe, been explored by naturalists.

NECTARINIA ALBIVENTRIS, *Strickland.*

♂ Crown, cheeks, and upper parts, glossy green, with a purplish gloss on the front; upper tail-covers steel blue; greater wing-covers and remiges pale fuscous brown; rectrices fuscous, narrowly margined with glossy green; chin and throat steel blue with a violet gloss; breast, belly, and lower tail-covers pure white;

axillary tufts bright orange anteriorly, sulphur yellow posteriorly; beak and legs black.

♀ Uniform pale brown above, dirty white below.

Total length, 3̇.7̈; beak to front, 6̈; to gape, 7½̈; wing, 2̇.1̈; all the rectrices, 1̇.6̈; tarsus, 6½̈.

VII.—ON THE DISTINCTNESS OF *MONASA FUSCA* (GM.), FROM *M. TORQUATA* (HAHN.)

THE bird termed *Bucco fuscus* by Gmelin and *Tamatia brun* by Le Vaillant, has been regarded by Prince Bonaparte, Wagler, and other modern writers, as the young of the species which Hahn named *Bucco torquatus*, and Spix *B. striatus*. A specimen of the former, in the collection of T. C. Eyton, Esq., has enabled me to prove that these two birds, so long confounded, are in fact quite distinct. This will be sufficiently evident on a comparison of their descriptive characters.

(1.) MONASA TORQUATA (*Hahn*).

SYN.—*Bucco torquatus*, Hahn, Ausl. Vög. pl. 13. p. 5.
Bucco striatus, Spix, Av. Braz. v. 1, pl. 40. f. 2.
Lypornix striata, Swains. Birds Braz. pl. 34.
Bucco fuscus, Licht. Verz. Doubl. p. 8.
Monasa fusca, Bonap. in Journ. Acad. Phil. v. 4, p. 370.
Lypornix torquata, adult, Wagl. Syst. Av. sp. 4.

Plumage brown, streaked with yellowish rufous; a rufous patch in front of the eye; a large white patch on the upper breast, followed by a black band; lower breast plain rufous; beak wholly black; tail, 3̇.5̈ long.

Habitat, Brazil.

(2.) MONASA FUSCA (*Gm.*).

SYN.—White Breasted Barbet, *Lath.* Syn. v. 2, p. 505.
Tamatia brun, Le Vaill. Ois. Parad. v. 2, pl. 43.
Bucco fuscus, Gm. Syst. v. 1, p. 408.
Lypornix torquata, juv. Wagl. Syst. Av. sp. 4.
Monasa unitorques, Dubus in Bullet. Acad. Brux. 1848.

Plumage brown, streaked with yellowish rufous; a whitish patch in front of the eye; a triangular white patch on the upper breast, but no black band; lower breast pale fulvous, streaked with blackish; beak orange, the culmen and tip black; tail, 2.5 long.

Habitat, Cayenne and the Amazons.

Note.—I was not aware when the above was written, that M. de Lafresnaye had already pointed out the distinctness of *Monasa fusca* from *M. torquata* (which he erroneously calls *maculata*), in the Revue Zoologique, 1848, p. 248. The above remarks amount therefore to no more than a confirmation of that eminent ornithologist's conclusions.

VIII.—ON *PARUS IGNOTUS*, GMELIN.

CONTRIBUTIONS to Ornithology may be quite as usefully effected by the sweeping away of error and confusion, as by the collecting of positive knowledge. Now there is a nominal species of *Parus* said to inhabit Norway, which has haunted our systems of Ornithology for nearly a century, but which no recent observer has recognised in nature. Brunnich prophetically called it *Parus ignotus;* Latham named it after its supposed discoverer, *Parus stromei;* and Vieillot went so far as to found a genus for it, under the name of *Megistina.* Still all this book learning was of no avail in adding to our knowledge; the *Parus ignotus* still refused to fall before the gun of the naturalist, or to make its appearance on the shelves of our museums.

This ornithological phantom is, however, at last dissipated by Professor Sundevall of Stockholm, who in a recent letter to myself, has thus replied to my queries about *Parus ignotus.* As the original is in Swedish, I have thought it best to translate his observations.

"As regards *Parus ignotus*, it is well known that Gmelin had it from Latham's Synopsis, vol. iv. p. 537; Latham took his description from Brunnich's Ornithologia Borealis, p. 73; and Brunnich merely transcribed it from Hans Ström's "Physisk og œkonomisk Beskrifvelse over Fögderiet Söndmör, beliggende i Bergens Stift i Norge." 4°, Soröe, 1762. If now we read the original description in Ström, we shall at once perceive that Ström, who was not a scientific ornithologist, has given a pretty good description of *Anthus pratensis* in the autumnal plumage. This description Brunnich translated into Latin, and in so doing, introduced some little variation into the meaning so that it has been misunderstood. (See especially the phrase "abdomen cæruleum, propè anum flavescens"). Ström himself places the bird next after the *Pari*, and adds, that it was *unknown to him*, and thus the name *Parus ignotus* originated. I have not Ström's work now by me, but several years ago I made this investigation into the origin of "*Parus ignotus*," and am quite satisfied of its correctness. I presume that the expression "abdomen cæruleum" arose from a slip of the pen in Ström, who wrote "bugen mörk blaae," instead of "bugen mörk graae," which last word means *cinereous*. All the rest of his description applies admirably to *Anthus pratensis* in autumnal livery. In the index to Gloger's "Handbuch der Vögel Europas," it is said that *Parus ignotus* was originally a specimen of *Motacilla flava*, but artificially made up; a supposition which I cannot regard as correct, for the description applies far better to *Anthus* than to *Motacilla*."

ORNITHOLOGICAL OBSERVATIONS

BY PHILIP LUTLEY SCLATER.

VI.—SYNOPSIS OF THE GENUS *GALBULA*.

1. GALBULA VIRIDIS, LATHAM.

Alcedo galbula, *Linn.* **S. N. i. p. 181.——Galbula viridis,** *Lath.* **Ind. Orn. i. 244. ——Galbula rubricollis,** *Steph.* **Gen. Zool. ix. p. 224 (♀)—— Galbula viridicauda,** *Sw.* **An. in Men. p. 327.**

♂ Suprà cum vittâ latâ pectorali aureo-viridis; gulà albâ; ventre rufo-castaneo; caudâ infrà nigrescenti-viridi; rostro nigro.

♀ Mari similis, sed gulâ rufâ.

Long. tota, $\dot{7} . \ddot{7}$; alæ, $\dot{2} . \ddot{11}$; caudæ, $\dot{3} . \ddot{2}$; rostri, $\dot{1} . \ddot{5}$.

Habitat, Cayenne; Guiana (Schomb.); Amazons (Wallace).

Figured, Edwards, 334. Pl. Enl. 238; Le Vaill. Ois. de Par. 47 ♂, 48 ♀, 49 juv.? Vieill. Ois. Dor. 1 ♂, 2 ♀.

The Amazons specimens differ in having a rather longer beak, and broader and brighter pectoral band; but a large series must be examined before they can safely be separated, as the length of the bill varies greatly among individuals of some of the species.

2. GALBULA MACULICAUDA, SCLATER, SP. NOV.

Galbula viridis, *Max.* **Beitr. iv. p. 437 (nec.** *Lath.***); Galbula ruficauda,** *Sw.* **An. in Men. p. 327 (nec.** *Cuv.***)**

♂ Suprà cum vittâ pectorali aureo-viridis; gutture albo; ventre et 3 extimis utrinque rectricibus rufis; 2. extimis apice viridi notatis; rostro nigro.

♀ Mari similis; sed coloribus minùs claris; gulâ pallidè rufâ.

Long. tota, $\dot{9} . \ddot{3}$; alæ, $\dot{3} . \ddot{2}$; cauda, $\dot{3} . \ddot{8}$; rostri, $\dot{2} . \ddot{0}$.

Habitat South Brazil; Rio de Janeiro (Pr. Max.); Bolivia.

The Prince Maximilian of Neuwied does not distinguish this from the ordinary *Galbula viridis*, and Mr. Swainson calls it *ruficauda*, whereas the true *ruficauda* is that figured by Le Vaillant, which has, as he says, " *toutes* les pennes de la queue d'un roux uniforme." It becomes necessary, therefore, to give this species a new name, and I have called it *maculicauda*.

The first and second pair of rectrices are red with blackish tips, the third pair are wholly red; the fourth part are red only at the base; the middle pair are wholly green.

3. GALBULA RUFICAUDA, Cuvier.

Galbula viridis var. β *Lath.* Ind. Orn. I. p. 245.——Galbula ruficauda, *Cuv.* Reg. An. i. 420 (1817).——Galbula macrura, *Vieill.* Gal. pl. 29 (1820).——Galbula leptura, *Sw.* An. in Men. p. 327 (1838).

♂ Suprà cum vittâ pectorali aureo-viridis; gutture albo; ventre et 4 extimis utrinque rectricibus rufo-castaneis; rostro nigro.

♀ Mari similis, sed gulâ rufâ, vittâ pectorali angustiore.

Habitat, Trinidad; Guiana (Schomb.)

Figured, Le Vaill. Ois. de Par. t. 50 ♀; Vieill. Gal. des Ois. pl. 29; Lath. Gen. Hist. iv. pl. 26.

This Jacamar may be immediately distinguished from others, by its having the four outer rectrices on each side wholly chestnut red. The length of the bill varies very much in different specimens, in some being only $\dot{1} . \ddot{5}$, in others as much as $\dot{2} . \ddot{2}$. I was at first inclined to refer these long and short billed varieties to two species; but from having found in a collection of Trinidad skins a large number of these birds with the bills of different lengths varying as I have above stated I have now no doubt that they are specifically identical.

4. GALBULA TOMBACEA, Spix.

Galbula tombacea, *Spix.* Av. Bras. ii. p. 55.——Galbula cyanescens, *Deville*, Rev. Zool. 1849, p. 56.

G. aureo-viridis; capite gulâque cyanescentibus; mento griseo; ventre toto et rectricibus 3 utrinque extimis castaneis extimâ rectrice apice et margine externa viridi; rostro nigro.

Long tota, 8̇ . 0̈ ; alæ, 3̇ . 0̈ ; caudæ, 3̇ . 2̈ ; rostri, 2̇ . 0̈.

Habitat, Amazons (Spix) (Deville).

Figured, Spix, Av. Bras. ii. pl. 58.

This bird may be distinguished from all the preceding by the enlargement of the pectoral band, which covers the whole of the throat except the whitish spot on the chin. My specimen, which is in bad plumage, is apparently from Santa Fé de Bogota.

5. GALBULA CYANICOLLIS, Cassin.

Galbula cyanicollis, *Cassin.* Proc. Ac. Sc. Phil. 1851, p. 154.

G. aureo-viridis ; coronâ et colli lateribus sub oculo metallicè purpurascentibus ; subtùs rufo-castanea, rectricibus mediis omninò et lateralibus margine externâ viridibus ; rostro flavo, mandibulâ apice nigrâ.

Long. tota, 7̇ . 5̈ ; alæ, 3̇ . 1̈ ; caudæ, 3̇ . 0̈.

Habitat, Para (Cassin.)

Figured, Pr. Ac. Phil. pl. 7.

Specimens of this bird are in the British Museum. It is very nearly allied to the next following *Galbula albirostris*, but may be distinguished, as Mr. Cassin remarks, by the blue colour on the head and under the eyes.

6. GALBULA ALBIROSTRIS, Latham.

Galbula albirostris, *Latham*, Ind. Orn. i. p. 245.——Galbula flavirostris, *Vieill.* Nov. Dict. d'H. N. xvi. 444.

♂ Suprà smaragdineo-viridis ; coronâ rubescenti-cupreo : infrà rufo-castanea, vittâ gutturali albâ ; rostro flavo, mandibulâ nisi apice basique nigrâ.

♀ Mari similis ; subtùs levior, maculâ gulari nullâ.

Long. tota, 7̇ . 3̈ ; alæ, 2̇ . 9̈ ; caudæ, 3̇ . 0̈ ; rostri, 1̇ . 5̈.

Habitat, Demerara (Schomb.) ; Guia on the Amazons (Wallace).

Figured, Le Vaill. Ois. de Par. 51, ♂ ; Vieill. Ois. Dor. pl. 4 ♂, 5 ♀.

7. GALBULA CHALCOCEPHALA, Deville.

M. Deville, in the Revue Zoologique 1849, p. 55, describes this species, but does not tell us in what way it differs from the preceding. On a late visit to Paris, I had intended to clear up my doubts on this subject, and for that purpose purchased two specimens of E. Parzudaki, which he told me were procured from M. Deville and were therefore types of the present species. These birds I find to be no other than *G. albirostris*, but as Mr. Cassin considers M. Deville's species distinct, I am unwilling to unite the two without further inquiry.

8. GALBULA LEUCOGASTRA, Vieill.

Galbula leucogastra, *Vieill.* Nouv. Dict. xvi. p. 445.—— Galbula albiventris, *Cuv.* Regn. An. i. p. 448.—— Galbula ænea, *Temm.* Bp. Consp. Av. p. 152.

♂ Cupreo viridis; capite cœrulescente; gula maculâ magnâ triangulari cum imo ventre albis; rostro nigro.

♀ — ?

Long. tota, 7̇ . 0̈; alæ, 2̇ . 6̈; caudæ, 2̇ . 5̈; rostri, 1̇ . 4̈.

Habitat, Barra do Rio Negro (Wallace).

Figured, Le Vaill. Ois. de Par. Supp. pl. H.; Gray's Gen. pl. 29.

9. GALBULA INORNATA, Sclater, Sp. Nov.

G. brunnescens; tectricibus alarum superioribus et uropygio viridi tinctis, mento albescente; pectore rufescentiore brunneo; ventre medio niveo, lateribus et crisso nigricantibus; rostro et pedibus nigris.

Long. tota, 7̇ . 0̈; alæ, 2̇ . 6̈; cardæ, 2̇ . 2̈; rostri, 1̇ . 6̈.

Habitat, Brazil (Parzudaki).

This *Galbula*, which I believe to be previously unnoticed, I purchased in Paris of M. Parzudaki. It was wrongly marked *G. leucogastra*, the true *leucogastra* being the one last described, which was first made known by Le Vaillant's figure. It is of a nearly uniform brown, lightest on the top of the head and breast, darker on the wings, tail, sides of the belly, and crissum; glossed slightly with green on the upper wing and tail-coverts; the middle of the belly pure white, chin and upper throat whitish. In the Museum of the Jardin des Plantes, at Paris, I saw a bird resembling the present in every respect, except that the bill was white. It was brought by M. D'Orbigny from Guarayos, Bolivia. It was probably a male or full adult of this same species.

10. GALBULA PARADISEA (Linn).

Alcedo paradisea, *Linn.* S. N. i. p. 181.

G. aurato-cæruleo-viridis; capite et mento purpuracenti-brunneis; gutture albo; rostro nigro: caudâ longissimâ.

Long. tota, 9̇ . 8̈ ; caudæ, 5 aut 6̇ ; rostri, 1̇ . 6̈ aut 2̇ ; alæ, 3̇ . 5̈.

Habitat, Guiana (Schomb.); Cayenne; Rio Negro (Wallace).

Figured, Edwards pl. 10; Le Vaill. Ois. de Par. II. pl. 82; 52. Vieill. Ois. Dor. pl. 3; Pl. Enl. 271.

The short and long billed individuals doubtless differ in age or sex, but I do not know in what way.

11. GALBULA ALBIGULARIS, Spix.

Spix figures a *Galbula*, Av. Bras. ii. pl. 54, the only species among those mentioned here of which I do not possess specimens. His description is as follows: — *G. minor; violaceo-nigricans; capite fusco-brunneo; gulâ rostroque albidis; caudâ brevi æquali, subtus nigrâ. Hab. Para.* Were the belly white, the description would apply tolerably well to my *G. inornata.* Swainson's *G. lugubris,* arranged by the Prince of Canino as a synonym of this species, is three toed, and belongs therefore to the genus *Jacamaralcyon.*

Corpus Christi College,
Oxford, 2d February, 1852.

VII.—ON A NEW SPECIES OF THE GENUS *NIGRITA.*

To the genus *Nigrita* originally established by Mr. Strickland on a single species, the *Nigrita canicapilla,* Mr. Fraser in his Zoologia Typica added a second, the *N. fusconota,* which, like its predecessor, came from the island Fernando Po. The Prince of Canino in his Conspectus, gives the description of a third, *N. arnaudi,* Pucheran, of the Paris Museum, so called, I believe, from M. Arnaud, who brought this bird from the White Nile. A fourth, recently discovered, is the *N. lutifrons,* Verreaux, received among those many other brilliant novelties from the Gaboon, of which a list has been given by Mr. Strickland in a previous number of the Contributions. I have now the pleasure of making known a fifth species of this interesting genus, which was obtained by M. Parzudaki from Casamanza, a locality widely different from the *habitats* of the foregoing species, being not far south of the Gambia river on the most western part of the African coast. Its form is typical, but style of colouring rather different from that of the previously known members of the genus. I am indebted for the loan of the only example I have seen of it to Mr. Edward Wilson, who bought it for presentation by his brother to the Museum of the Academy of Natural Sciences at Philadelphia.

NIGRITA BICOLOR, Sclater.

Plate LXXXIII. 1852.

Nigrita suprà fusco-nigricans, alis et caudâ nigricantioribus: fronte, oculorum ambitu, capitis lateribus corporeque toto subtùs omninò brunneo-rufis; rostro pedibusque nigris; tarsis carneis.

Long. tota, 4.6; alæ, 2.3; caudæ, 2.0.

Habitat, Casamanza, Afric. occid.

The peculiar brown-red of the front and under parts is difficult to describe, but the bird may be easily recognised by the aid of the plate.

London, March 1, 1852.

ORNITHOLOGICAL OBSERVATIONS

By PHILIP LUTLEY SCLATER.

VII.—ON A NEW SPECIES OF *GALBULA*.

G. MELANOGENIA, Sclater.

Since writing the Synopsis of the genus *Galbula*, p. 29 of this year's Contributions, I have purchased from Mr. Leadbeater the only two examples of this new species that I have yet seen. They are ♂ and ♀, and from their appearance, I have little doubt were prepared by no other hand than that of M. Delattre, but in what part of the vast continent of South America he collected them it is impossible to say. The nearest ally of the present bird is the *Galbula ruficauda*, from which it differs principally in having four instead of two medial rectrices wholly green, and the whole chin, both in ♂ and ♀, nearly black, instead of pure white, whence I have called it *melanogenia*. There are likewise no traces of that coppery gloss on the back and pectoral band which is always to be found in the older species. *Galbula maculicauda* may be distinguished from this species by the spots on the outer rectrices.

♂ Suprà cum vittâ pectorali aureo-viridis; mento nigrescente; gulâ albâ; ventre et 3 utrinque extimis rectricibus rufo-castaneis; harum 4 mediis omninò viridibus.

♀ Mari similis, sed gulâ albescente-rufâ.

Long. tota, $\dot{9} \cdot \ddot{0}$; alæ, $\dot{3} \cdot \ddot{3}$; rostri, $\dot{2} \cdot \ddot{0}$; caudæ, $\dot{4} \cdot \ddot{0}$.

Habitat, S. A., locality uncertain.

London, 16th April, 1852.

ILLUSTRATIONS OF FOREIGN OOLOGY.

PHAËTHON.

PLATE LXXXIV.

THE tropic birds are generally met with either far from land or in the vicinity of inaccessible or seldom visited islands, and the notices that occur in the accounts of voyages, except in some of a late date, *That tropic birds were breeding on such an island*, from the resemblance of the species to each other, can almost never be taken with any specific certainty, but merely that one species or other did breed in the locality mentioned. It is therefore with satisfaction, that we are now enabled to give figures of the eggs of the three known species, the identity of which we are certain, specimens of the birds having accompanied the eggs, and no other species being known to breed in the locality where they were obtained.

The nesting places of the different species of Phaëthon have been generally described as formed upon the shelves or ledges of rocks; but holes in the ground and trees are also mentioned, and we transcribe a few of the authorities, that their accounts may be compared with those of our correspondents who have themselves seen and taken the birds from their nests.

Dr. Latham, when writing of *P. æthereus*, states, that they "are said to breed in the woods on the ground beneath them. They are nowhere more numerous than on Palmerston Island, where these birds, as well as the Frigates, were in such plenty, that the trees were absolutely loaded with them, and so tame as to suffer themselves to be taken off the boughs with the hand." Of the *P. rubricauda* the same author writes, "They are found in great numbers in the island of Mauritius, where they make the nest in the ground under the trees."

Lesson in the voyage of Mon. Duperrey, found the *P. rubricauda* in the island of Mauritius, breeding upon the peaks of the most precipitous of the mountains.

In the voyage of Mon. Freycinet, *P. æthereus* in the Isle of France, is said to roost upon trees, and make their nests among inaccessible rocks: and Captain Tuckey states, "That the great tropic bird, *P. æthereus*, breeds in the crevices of the elevated rocks near the shores."

In colour and markings, the eggs of all are nearly similar, the size and form only slightly varying, but they are very peculiar, neither agreeing in the olive tints and large blotching of those of the Gulls and Terns, to which on the one side they are allied, nor to the generally uniform and light colour of the *Pelicanidæ*, which seem to approach them by *Sula*. They remind us more of the eggs of some of the true Falcons, both in form and colouring, and are at variance, in these respects, with those of all the Natatores we are acquainted with.

For specimens of PHAËTON ÆTHEREUS with its eggs, Fig. 1 of our Plate, we are indebted to our old correspondent, Mr. Kirk of Tobago. He states in his notes—

"This species frequents the island of little Tobago, St. Giles, and Smith's Islands, which are all dependencies of Tobago, and situate at no great distance from our coast. They build in holes of the rocky precipices overhanging the raging sea, and are generally both difficult and dangerous to approach. They lay one egg of a dark sombre colour, and during the time of incubation, the female will allow herself to be taken off the nest rather than take wing; but she will at the same time defend herself, by a diligent use of her bill, with which she draws blood freely."

Specimens of P. FLAVIROSTRIS, Brandt, together with an egg, Fig. 2, were sent to us from Bermuda, by Lieut. Wedderburn. This species is migratory in Bermuda, arriving there to breed, and leaving again when the duties of incubation have been performed. Mr. Tristram has given the following dates of the arrival and departure of *P. flavirostris*, observed by himself when resident in the Bermudas, and has also obliged us by extracts from his notes regarding the habits and incubation of these curious birds, which is the fullest and most detailed account we have yet seen of the manners of any of the species.

First appearance.	*Last observed.*
1847, 5th March, on 20th plentiful.	1846, November, a straggler.
1848, 10th March.	1847, 9th October.
1849, 12th March.	1848, 27th September.

"I have much pleasure in affording you such information, as I can from my notes respecting the *Phaëthon flavirostris* of Bermuda, or 'Long-tail,' as it is there familiarly named. Of all the feathered denizens of these islands, it is the only one which gives any character to the landscape. Man has made sad havoc among the winged aborigines, since Captain Smith, in his History of Virginia, published in 1629, writes "Neither hath the aire for her part been wanting with due supplies of manie sortes of fowles, as the gray and white hearne, the gray and green plover, wild ducks and mallards, coots and redshanks, sea-wigions, gray bitterns, cormorants, numbers of small birds like sparrows and robins, woodpickars, very many crows, the leabourer or egg-bird, and the tropicke bird." Of all these the tropic bird alone remains, save as stragglers or visitants. From early spring to late autumn, this beautiful bird may be seen incessantly sailing near the shores, uttering its shrill and often repeated but not unpleasant note, which is much like the call of the Tern, but deeper and not so rapidly uttered. These birds fish for the most part very early in the morning; and I have often watched them at sunrise, noisily skimming the surface of the calm sea, and gently dipping (for it can scarcely be called darting), as they catch up any small fish within their reach, while their pink-white plumage glistens with a soft rosy hue in the sunbeams. I never but once saw a tropic bird swim; when it did so, the tail was expanded like a fan, perfectly erect, with the long feathers in the centre stiffened as it quarrelled with a comrade over their prey. After mid-day I have seldom observed them fishing, and they fly at a much greater height, generally five or six together, and often so high as to be scarcely visible. Though gregarious in their general habits, while in their summer quarters they do not associate so closely as Gulls or Rooks, but in small parties, and there are seldom more than half-a-dozen feeding within gun-shot of each other. During the period of incubation they are remarkably fearless, coming within a few yards of a boat, or close along side one while bathing, even within a yard of ones head; nor do they conceal their nests or young, as they fly backwards and forwards, regardless of the presence of a spectator.

"They breed on all parts of the coasts of the Bermudas, but chiefly on the southern side, where the cliffs are most precipitous and inaccessible. They form no nest, but deposit their single egg on the bare rock, upon a ledge seldom more than one or two feet within the face of the cliff, sometimes about fifteen feet above the level of the sea, but more frequently at a much greater elevation. Both the parent birds, I believe, take a share in the labour of incubation, but of this I am not quite certain; I have often observed both feeding the young at the ledge of the rock, clinging to its side much after the fashion of a Swift. While sitting, they will allow any one to take them in their hands rather than leave their egg. In proof of this, on one occasion, I had requested some soldiers, stationed at an outpost near one of their favourite haunts, to procure me a few living specimens and some eggs. Two or three days afterwards, I was shocked to find that they had taken upwards of fifty of the poor creatures on their nests, and shut them up in a dark cellar, waiting my arrival! We immediately relieved the greater part of them, but more than twenty had perished during their night's confinement in this "black hole." A few such razzias as this, and the whole colony might have been extirpated. The first plumage of the nestling is a pure white down, afterwards the broad bars of black are more broadly marked than in the adult. The eggs in my possession vary much, generally of a uniform brownish-red mottled colour, most like the usual colour of those of a Kestrel but browner. Some are only reddish-white, and are darkly marked at the thick end and very pale at the small end.

"They generally withdraw to the southward in September. I observed a few in October, 1847, and one or two in November, 1848. During the winter months, I have never heard of a single straggler. Unlike the *Laridæ*, the *Phaëthon* never flies over the land, or comes up the creeks where there are no cliffs for nidification; nor have I ever seen one settle, except on the ledges, where their young might be directly overhanging the deep sea."

We are indebted to Mr. Gould for the drawing of the eggs of *Phaëthon phœnicurus*, Fig. 3; they were procured from Norfolk Island, east coast of Australia, and from Raine's Islet, in Torres Straits. He states, that August and September are its breeding months, the season when the two previously mentioned species leave their breeding quarters. Mr. Gould did not see these tropic birds breeding, but quotes Mr. Macgillivray's account of their nidification on Raine's Islet: "Upon one occasion, three were observed performing sweeping flights over and about the island, and soon afterwards one of them alighted; keeping my eye upon the spot, I ran up and found a male bird in a hole under the low shelving margin of the island bordering the beach, and succeeded in capturing it after a short scuffle, during which it snapped at me with its beak, and uttered a low harsh and oft repeated croak. It makes no nest, but deposits its two eggs on the bare floor of the hole, and both sexes assist in the task of incubation. It usually returns from sea about noon, soaring high in the air, and wheeling round in circles before alighting. The eggs are blotched and speckled with brownish-red, on a pale reddish-gray ground, and are $\dot{2}\cdot\ddot{3}$ long by $\dot{1}\cdot\ddot{4}\frac{1}{2}$ broad."

HABITS OF LARUS CANUS.

In the Proceedings of the Berwickshire Club for 1850-51, Mr. A. Hepburn in noticing the birds that are found at St. Abb's Head, writes of the Common Gull: "During the greater part of the year, these birds find their chief sustenance not only along shore, but also in the fields in the interior of the counties of Berwick and East Lothian. Dr. Hood of Aimsfield, near Coldingham, informed me, that they do great injury to the turnip crop, especially during hard weather; and yet, judging by their droppings, such food is not readily digested by them. Similar complaints have been urged against them in Fife."

In our own district, at a distance in a direct line of about twelve miles from the sea, the Common Gull, since we can remember, during winter and spring, daily wends its way inland considerably farther than our locality, and as regularly may be seen returning towards evening in its wedge formed groups. These during the forenoon, frequent the fallows, and often follow the plough; but their chief resort is the pasture lands, and their chief, almost only food, is worms or snails, &c. We have never heard of, or suspected them attacking turnip or other vegetable produce. This would be a very curious and useful subject for the Club to investigate.

ILLUSTRATIONS OF INDIAN ORNITHOLOGY

BY E. BLYTH.

Curator to the Museum of the Asiatic Society, Calcutta.

WE have already had occasion to express our obligations to Mr. Blyth, for his valuable contributions to the Ornithology of India published in our previous volumes, which his position as Curator of the Museum at Calcutta, assisted by his own activity and energy, and his now intimate knowledge of the Indian Fauna, afford him every qualification to give. We have at various times received additional drawings and notes, some of which should have been published before this time; and we have now made arrangements that these should appear regularly, and as early as possible after they reach us. We shall place all Mr. Blyth's papers now under the above title, and will include among them the numerous drawings of nests and eggs, which our subscribers can arrange or not as they may think best, among the "Illustrations of Foreign Oology." The drawings sent by Mr. Blyth are all executed by a native artist with mechanical truth, and we endeavour to preserve their character, rather than introduce accessaries which might be inapplicable. These figures we consider of much importance, as fixing the species indicated by Mr. Blyth in his various papers and catalogues, published in the Journal of the Asiatic Society of Bengal, and in many instances also those of Mr. Jerdon, M'Clelland and others, who have done good service to Indian Ornithology.

I.—INDIAN PARI.

PLATES LXXXVII. LXXXVIII.

INDIA is rich in *Pari*, at least the pine forests of the Sub-Himalayas are so, and a few species are found elsewhere, though only in the upland forests. The following have been described, and we have reason to think that others remain to be discovered in the Alpine Punjab and other parts.

1. PARUS FLAVOCRISTATUS (LAFRESNAYE.)

P. sultaneus, *Hodgson*, Ind. Rev. 1837, p. 81.——Crataionyx flava and C. ater, *Eyton*, Proc. Zool. Soc. 1839, p. 104.——Melanochlora flavocristata et M. sumatrana, *Lesson*.

THIS is the largest and most powerful *Parus* known, and also one of the most beautiful.* It is also remarkable among the group for a certain dissimilarity of the sexes, in which it resembles the Australian *Oreöica cristata* (Lewin), also referred to *Parus* by Mr. Strickland, and which at least is very closely affined to the *Pari*. It inhabits the South Eastern Himalaya, as the forests of Nipal, Sikkim and of the mountains of Assam, and thence passes southward into the Malayan peninsula and Island of Sumatra. Specimens generally occur in collections from the widely separated localities of Darjeeling and Malacca.

2. P. CINEREUS (VIEILLOT).

P. atriceps, *Horsfield*.——P. nipalensis, *Hodgson*.

THIS is the most extensively distributed of the Indian *Pari*, and generally one of the commonest where met with together with other species. Examples from different parts of the Himalaya, Assam, Central and Southern India, Ceylon and Java, are utterly undistinguishable. With the next three, it appertains to the same group as the European *P. major*.

---

* The most wonderful birds of the group, are the species of *Falcunculus*, which have been commonly classed as *Shrikes*.

Digitize

3. P. MONTICOLUS (Vigors).

Gould's Century, pl. 29, p. 2.

This species appears to extend throughout the Himalayas, to which region it is however peculiar, so far as hitherto observed.

4. P. GRIFFITHII (Blyth).

Journ. As. Soc. B. xvi. 445.

This species rests as yet solely on the authority of an elaborate coloured drawing of a bird, obtained by the late celebrated botanist, Dr. Griffith, during his journey from Assam to Ava, and now in the possession of J. M'Clelland, Esq. of Calcutta. It is allied in colouring to *P. xanthogenys* and *P. spilonotus*, but is at once distinguished by being crestless and in the details of its markings.

5. P. NUCHALIS (Jerdon).

Madr. Journ. xiii. pl. 2, p. 130; (Ill. Ind. Orn., pl. 46). ——*Blyth*, in J. A. S. B. xiv. 553.

As yet observed only on the Coromandal Ghâts.

The next six species are crested, like the European *P. cristatus*, L., with an additional large crested species still undescribed, from the North West Himalya, in the list of desiderata, appended to the Catalogue of the Birds in the Calcutta Museum. *P. flavocristatus*, we may remark, is also one of the species of this genus, adorned with a lengthened crest.

6. P. SPILONOTUS (Blyth).

Catalogue of the Birds in the Museum of the Asiatic Society, Calcutta, P. xanthogenys, apud *Blyth*, J. A. S. B. xvi. 445.

This beautiful species inhabits Nipal and Sikkim, and there replaces the next. We figure both for comparison.

7. P. XANTHOGENYS (VIGORS).

Gould's Century, pl. 29, fig. 1.——P. aplonotus, *Blyth*, J. A. S. B. xvi. 444.

THERE are two varieties of this bird, that originally figured by Mr. Gould from the North West Himalaya, in which the yellow is more brilliant and extended; and that from Central and Southern India, in which the yellow is more contracted and considerably weaker, and the black more developed; but though constant to their distinctions, they can hardly be separated as species.

8. P. RUFONUCHALIS (BLYTH.)

Journ. As. Soc. B. xviii. 810.

FROM the Tyne range of mountains north of Simla.

9. P. MELANOLOPHUS (VIGORS.)

Gould's 'Century,' pl. 30, p. 21.

INHABITS the North West Himalaya, and according to Mr. Jerdon also *Gūmsūe*, but we are not aware that specimens from these regions have been compared together.

10. P. RUBIDIVENTRIS (BLYTH.)

Jour. As. Soc. B. xvi. 445.

REPLACES (or probably co-exists with) the last in Nipal, and was confounded with it. We figure them together for comparison.

In *P. rubidiventris*, the black does not descend so far down the breast as in *P. melalophus*, and the axillaries, middle of the belly and lower tail-coverts, are of a deeper rufous than the rest of the lower parts. No. 2 is very common in the Simla and Mussooree Hills; but a specimen sent to the Calcutta Museum by Mr. Hodgson from Nipal as No. 2, was No. 1; and possibly Hodgson's Nipal *P. melalophus*, of Gray's British Museum Catalogue, is also *P. rubidiventris.*

11. P. DICHROUS (HODGSON, BLYTH.)

In Journ. As. Soc. B. xiii. 943.

THIS species is interesting, as displaying an affinity for *P. bicolor* of North America, as the *Sitta leucopsis*, Gould, of the North West Himalaya, approximates the true black-headed Nut-hatches of the same continent.

12. P. ÆMODIUS (HODGSON, BLYTH.)

In Jour. As. Soc. B. xiii. 943.

NEARLY affined to the European *P. ater*, L., but smaller, with finer bill, and the black descending more upon the breast.

Inhabits Nipal.

13. P. IOUSCHISTUS (HODGSON, BLYTH.)

In Jour. As. Soc. B. xiii. 943.

BY its lengthened spread tail, approximating the *Oritis* division, and also *P. sibiricus*. From Nipal.

14. ORITIS ERYTHROCEPHALUS (PARUS ERYTHROCEPHALUS.)

Vigors, Gould's 'Century,' pl. 30, p. 1.

COMMON throughout the Himalaya, and not hitherto observed elsewhere. We are informed that its irides are brilliant golden yellow, as fine as those of any raptorial species.

15. SYLVIPARUS MODESTUS (BURTON.)

Proc. Zool. Soc., 1835; Parus seriophrys (or sericophrys?).——Hodgson, Journ. As. Soc. B. xiii. 942; xvi. 446., Himalaya.

16. S. (?) MINUTUS (PARUS? MINUTUS, JERDON.)

Madras Journal, xi. 8.

Northern Ghâts of the Peninsula of India. *(Non vidimus.)*

17. ÆGITHALUS FLAMMICEPS (Burton.)

Proc. Zool. Soc., 1835, p. 153.——Dicœum sanguinifrons, *Hay*, Journ. As. Soc. B. xv. 44.

We follow common usage, in classing this genus with the Tits, though far from being satisfied of the corrrectness of so doing.* It inhabits the North West Himalaya in flocks, which frequent the higher branches of lofty trees. Mr. Hodgson does not appear to have met with it in Nipal.

N.B.—The *Parus quadrivittatus*, Lafresnaye, *Rev. Zool.*, 1840, p. 128, "from Manilla or India," is probably Indian.

II.—RHYNCHEA BENGALENSIS.

Plate LXXXIX.

1. 2. 3.

The Common Painted Snipe of South-eastern Asia and its Islands, differs from that of Australia, in having longer toes, and the female by not presenting the remarkable elongation of the trachea, which Mr. Gould has described in the female of *R. australis*. There is the same remarkable difference, however, in the plumage of the sexes, the female being the larger and handsomer bird. We have several times met with the young, in all stages of growth, in the Calcutta provision bazaar, chiefly during the rainy season, and conclude that they have probably two or even three broods in the year. The chick represented, was one of three obtained together, and the egg we took from the oviduct.

The following is a sportsman's notice of the Indian Painted Snipe, extracted from the Bengal Sporting Magazine for 1839:—"This bird is not considered a very interesting one by sportsmen, from the circumstance of its not being thought so dainty for the table as the regulation one, or at all a good mark for the gunner.

---

* Figured under the name of *Paroides flammiceps*, in "Contributions" 1850, p. 148.

"They are solitary, lying very close, and like the little fluttering Jack Snipe, must be kicked up. Their flight is heavy, short, and low to the ground — more a skim than a fly; they come in about November, and frequent rushes and reedy spots, and are not so much found in the paddy *Khets* as the true Snipe. Nevertheless they count, and somehow most sportsmen's bags (about this time) hold them after an afternoon's shooting." Most sportsmen in India demur, however, to the Painted Snipe *counting* as game; and with regard to its flight, we have often heard it compared to that of a huge moth!

III.—METOPIDIUS INDICUS.

HYDROPHASIANUS SINENSIS.

PLATE LXXXIX.

4. 5.

THE *Palamedeadæ*, to which the Jacanas strictly appertain, compose a remarkable and well distinguished family of birds, which bears no particular affinity to the *Rallidæ*, where the species have been often referred. Neither the external characters of the birds, when viewed with the requisite attention, nor the structure of the skeleton, or of the soft parts, nor the gait and carriage when alive, nor the shape and colouring of the eggs, nor the plumage of the chick, exhibit a token of affinity between these families. Two species are common in South-eastern Asia and its Islands,* which are rightly placed in distinct generic divisions, according to the general analogies of modern classification; and besides their external distinctions, which need not be here more than referred to, it is remarkable, that while *Metopidius indicus* moults its plumage but once in the year, retaining the same adult garb at all seasons, *Hydrophasianus sinensis* is very different in its summer and winter dresses, the latter nearly resembling that of the young, except in the development of a broad black pectoral band, continuous with the line down each side of the neck. The eggs also of these two birds are very dissimilar, as represented in the accompanying plate.

---

* A second *Metopidius* inhabits New Guinea and Northern Australia; the *Parra gallinacea*, Temminck; Gould's Birds of Australia, vol. vi. pl. 75.

A good notice of the habits of the *Hydrophasianus* occurs in the "Calcutta Sporting Review," vol. v. p. 7. "These birds," remarks the writer, "breed during the rains, in flooded spots, where the lotus is plentiful, the pair forming a rude flat nest of grass and weeds, interwoven beneath with the long shoots of some growing aquatic plant, which retain it buoyant on the surface. Herein are laid six or seven olive-brown pear-shaped eggs, of an inch and a quarter in length. Their slender* bodies and widely extending toes, enable the Jacanas to run with facility, apparently on the water, but in reality, wherever any floating leaves or green herbage meets their light tread. The food consists of the green tender paddy, or other vegetable growth, dependant on inundation for its production, and the numerous species of insects that abound in such spots. The cry is like that of a kitten in distress, whence their native name of *Meewah*. In flight, the legs are trailed behind like those of the Herons. The flesh is excellent. It is remarkable, with respect to these birds, that a winged or only wounded one is never brought to bag. Though not web-footed, they dive instantly on the attempt to capture them, and you see them no more. Now, whether they have the power of remaining an extravagant time submerged, or can proceed to a distance, and at a rate not even attainable by the *Palmipedes;* or whether, unable to rise again after the impetus with which they go under water, they get entangled in weeds and die there, are questions for solution." Of course, like so many other waders and water fowl (*Gallinules* and *Grebes* for instance), they remain concealed amid the aquatic herbage, with the nostrils only above water, and so wait until they consider all danger over.

As remarked by Mr. Jerdon, "this handsome species is (in the peninsula of India) perhaps more generally spread than the other, *M. indicus*, but is not so numerous, except in some few localities. It frequents, like the other, weeded and lily covered tanks, but is also often to be seen feeding at the edges of rivers, and tanks totally devoid of weeds." This accords with our own observation in Bengal, where we have sometimes seen it, to all appearance, walking on the water, and slight and little visible were the supports on which its long toes really rested. So far as we have seen, it is much less gregarious than *Metopidius indicus ;* which latter species, abundant in Lower Bengal, may commonly be observed, thirty or forty together, in weedy tanks and jheels, yet not flying off in a body when disturbed, but each one separately, to collect again at a little distance. They are far from shy, and the voice of *M. indicus* is harsh and disagreeable. We have kept both species tame for months together, thriving well upon the shrimps upon which all our various small *Grallatores* were fed. *H. sinensis* was, in the aviary, rather quarrelsome with its kind, but agreed well with every other species. The egg of *M. indicus* is finely streaked as represented.

---

* The body is full shaped and broadish to the front, not narrowed, as in the *Rallidæ*.—Z.

Digitized

BIRDS OF WESTERN AFRICA.

COLLECTIONS OF L. FRASER, Esq.

Mr. Cumming has forwarded to us for examination another collection, just received from Mr. Fraser, accompanied by a list, bearing the localities of the specimens, and the date of "November, 1851." The collection, procured chiefly at Abomey, a few at Old Calabar, is not so interesting as that noticed in "Contributions," 1851, p. 151; still there are some species that require a short notice, and there are one or two which do not occur in Hartlaub's "Verzeichniss."

HIRUNDO GORDONI, Jard. (No. 184).

We were glad to see another specimen of this Swallow. It confirms the distinctions pointed out between it and *H. melanocrissus*, Rüpp., and agrees with those described in "Contributions," 1851, p. 141. This specimen is from Abomey.

HALCYON PYGMEA, Rüpp.

Nos. 161, 166.

We have not been able to compare any specimen not from Western Africa, with our own examples from Sierra Leone, which agree with those now before us, except in the lower breast and under parts being more tinted with sienna. Bonaparte separates the West African birds from Rüppell's, under the name of *H. striolata*, but a slight difference in size seems the only distinction. Fraser's specimens are from Abomey. This species is not in Hartlaub's list.

r/ Two specimens of an *Irisor* (Nos. 218, 231), are in this collection, marked by Mr. Fraser as *I. erythrorhynchus*, having both the bills and feet bright vermillion. Vieillot separated the Senegal from the South African birds, because the former had black bills. Lichtenstein called it *melanorhynchus* from the same circumstance; and under that name, Hartlaub introduces it in his Catalogue, while Swainson, in the birds of Western Africa, also keeps the names distinct, though he says, "They are almost precisely the same size, and that the white spots on the wings and tail are the same." He, however, notices the difference in the curvature of the bills and of the tints of plumage. We possess a series of specimens *I. erythrorhynchus* from South Africa, from the collections of Dr. A. Smith, in which the general dimensions vary as well as the length and curvature of the bills. We possess also specimens from Sierra Leone, procured by the late Governor Fergusson, with *black bills*, and Mr. Fraser's birds, with red bills, are now before us. The result of the comparison is, that the southern and western birds are quite distinct, and that the colour of the bills is incident to age or season.

The size and markings of the two are extremely similar, but the white on the wings of *I. senegalensis* is always larger and slightly different in form, so that when the differences are pointed out, there would be no difficulty in separating the birds by their wings only. The woodcut illustrates the form of the white on one of the feathers of the Bustard wing or pinion. 1. The West, 2. the South African bird.

1

2

The white spots on the tail are also larger. In *I. erythrorynchus* the reflected tints of the back are bright yellowish-green, on the scapular feathers bronzed, while in *I. senegalensis* the plumage inclines more to blue reflections, on the shoulders to purple. The colour of the bill is probably dependant on age or season, but the form is very different. In *I. erythrorhynchus* it is strong and triangular at the base, but suddenly becomes slender and attenuated; in *I. senegalensis* the strength and size at the base is gradually carried out to the tip, the whole bill is stronger, deeper, and not so much curved. In the West African bird, the foot is also larger and stronger. These birds are from Abomey.

NECTARINIA TEPHROLÆMUS, Jard. & Fras.

No. 136.

A single specimen of this bird occurs.

NECTARINIA FASCIATA, Jard. & Fras. (April, 1852.)

No. 278.

This species is near to *N. bifasciata*, but we have reason to believe, that the West African species will prove distinct. In notes which we made on M. Bourcier's collection, purchased by Mr. Edward Wilson, and unfortunately lost on its transmission to America, there was a specimen from Sierra Leone, marked with an ?, which differed in the distribution of the pectoral band, but being the only one we had then examined, we were unwilling to separate. The specimen before us is similar to the descriptions of *N. bifasciata* in the upper plumage, but the whole chin and throat are rich green. The fore-part of the neck and upper breast is rich violet, and is succeeded by dull vermillion (without any band of separation), which stretches down upon the sides of breast upon the flanks, the centre of the vent and under tail-coverts only being black; axillary tufts are pale yellow.

Length, $\dot{5} . \ddot{8}$; bill to forehead, $\dot{1} . \ddot{2}$; wing to third, $\dot{2} . \ddot{8}$.

There are at least four distinct species of the very difficult form *Drymoica* in the collection, none of which we can exactly reconcile with figures or descriptions. In regard to the latter, it is almost impossible to separate most of the species by them alone. The birds themselves resemble each other so generally, that the description of one will serve for that of another, unless when some prominent mark or stripe is present to be laid hold of as characteristic. No. 182 is near to *D. mystacea*, Rüpp., except in having a slight sienna tint on the crown, and wanting the superciliary stripe. In other respects, the descriptions would agree.

Length, $\dot{4} . \ddot{6}$; wing, $\dot{2} . \ddot{1}$.

Another species, No. 254, of small size and unobtrusive plumage, is very conspicuous, when laying among others, by its black bill, which catches the eye at once. It may stand provisionally as —

D. MELANORHYNCHUS, JARD. & FRAS. (April, 1852).

♂ *Above* — pale grayish-brown, a broad streak from nostril to eyes, and around the anterior half of eyes, white; bill, deep black. Tail with a darker apical band; rectrices, except centre, narrowly tipped with white. *Below* — white, tinted with pale sienna, darker on vent and under tail-coverts.

Length, $\dot{4}\,.\,\ddot{2}$; wing, $\dot{1}\,.\,\ddot{9}$, or $\ddot{9}\frac{1}{2}$.

Habitat, Abomey, *L. Fraser.*

Another belongs to the strong form of *D. lugubris*, *robusta*, &c., of Rüppell, and is very near in form and size to *D. lugubris* of that author. The bill is stronger and more curved, the head and cheeks are darker, and there is no eye stripe, while *D. robusta* seems to differ from it in having a longer tail. It may stand provisionally as —

D. FORTIROSTRIS, JARD. & FRAS. (April, 1852).

♂ *Above* — umber, feathers darker in centre, space between eye and nostril pale yellowish-brown, edges of quills at base, pale sienna. Tail with a dark apical band and pale tip. Bill, blackish-brown, strong, curved, with rictorial bristles. *Below* — white, tinted with sienna, darker on vent and flanks.

Length, $\dot{5}\,.\,\ddot{3}$ to $\ddot{7}$; wing, $\dot{2}\,.\,\ddot{7}$.

Habitat, Abomey, *L. Fraser.*

ORNITHOLOGY OF THE ISLAND OF TOBAGO.

IT is very seldom that we fall in with persons who will take the trouble to collect specimens, and at the same time communicate notes of the habits and localities, along with their collections. These "Contributions" will however show, that the interest beyond mere sport or shooting is extending itself; but among the many who contribute to our information, and which is one of our chiefest pleasures and inducements to continue ornithological pursuits, no one has employed his leisure time to more advantage than our valued correspondent, James Kirk, who has now been many years a resident in the Island of Tobago. We published in early numbers of the Annals of Natural History, a sketch of the Ornithology of that island, just as the specimens were sent over to us, and with the remarks that accompanied them, with the view of marking at the time whatever was new or peculiar, but more particularly to draw attention to the subject of geographical distribution in islands. Since the publication of these notes as above mentioned, we have obtained various other information, as well as additions to the species at that time enumerated, while the wish to correct and amend some of the descriptions and observations, are reasons why we again reprint a portion of them, and endeavour to render them a more complete guide to the Ornithology of the Island.

The Ornithology of the West Indian Islands, considered with regard to their relations to each other, and with the continents of North and South America, has been much neglected, and although large collections have been brought to Europe from different parts, few attempts have been made to insulate them, if we may so express it, or to point out the species prevailing in, or peculiar to the different islands, the migratory birds from those which are resident in each, or their general affinity with those of the mainlands or adjacent islands.

The West Indian Islands, as they are collectively called, now form an extensive archipelago, situate in that great hollow or bay opposite to the narrow land which at the present time connects the two American continents. Did these islands once form a part of the continental land? Have the great convulsions which have agitated these countries cut them off from the ancient mainland? Have they been partially upraised, and have some new islands been entirely formed? A French author tells us, that "Tobago resembles the eastern part of Trinidad; and every thing tends to declare, that Trinidad and Tobago were separated from the continent by a sudden retreat of the waters of the sea;" while on the other hand, the works of Darwin afford ample proofs of an upraising, at a comparatively modern period, of many parts of the coast of South America. In either case it becomes extremely interesting to trace how these islands have become crowded with animal life, the relations which their species bear with those of the continent or the adjacent isles, and the changes that in a later era may have occurred in their individual fauna. Some of these islands are of very large extent, while others are of very limited bounds, but so far as our present information extends, they exhibit an ornithology sometimes quite distinct from each other, and in a few instances remarkably peculiar. Some serve as a refuge for the migratory species of the northern continent, and receive them; some again have, as it were, only a partial share of the birds of South America; but all our consignments have been so distinct, or as we have termed it, "insulated," that we consider any materials that will determine the species belonging to one member of the archipelago, or that will throw light on their geographical distribution through the whole of it, will be of some service to ornithology.

In lands that have been cut off from any great continent, we can understand the retention or carrying away of at least a proportion of their productions; and in the distribution of species, birds are possessed of that peculiar locomotive power, which would, and which we know does, easily transport them much longer distances than the space which separates any of these islands from the mainland. "We used to wonder" writes the Rev. Lansdown Guilding, "how those islands which owe their origin to volcanic convulsions, or have sprung from the bosom of the ocean, built on reefs of corals, could become peopled with the countless animals which they now support; especially with insects, those delicate and frail beings, which would perish in the sea, as was formerly supposed, in their flights from distant lands." In this distribution, the migration of insects, the countless flights of various lepidoptera, show the possibility of beings, apparently in no way adapted for lengthened journeys, being transported to immense distances. Many specimens of the migratory locust have been captured in this country, which in all probability crossed from the continent. The accomplished naturalist above quoted, mentions the circumstance of *Acherontia atropos*, flying on board the Chieftain of London, when at least 1000 miles from the nearest land of the Western Islands. Darwin records a species of *Achrydium*, which flew on board the Beagle, when distant from the nearest land 370 miles; and at another time, "When we were about ten miles from the Bay of San Blas, vast numbers of butterflies, in bands or flocks of countless myriads, extended as far as the eye could range; even with the aid of a glass, it was impossible to see a space free from butterflies." In the voyage of the Samarang the same facts occur—"Becalmed off the African coast, some hundred miles from the land, large numbers of insects were observed floating on the surface of the water, some *Achrydia* and locusts being still alive." And it thus ceases to be considered remarkable, that even the smallest and weakest members of the class of birds, should be able to cross vast distances, when we know that more frail beings, and even animals, possessed of neither aquatic or ærial locomotive powers, are often met with much farther from land, than either their strength or structure would allow us to warrant, without a knowledge of the facts themselves.*

In examining insular zoology, we are often much struck with the peculiar fauna of some small patch of land, remote in the ocean, supporting creatures found or at least known to exist nowhere in the world, except on that limited space. It is true, the ornithology of islands always resembles that of the most adjacent continent, and that the types, however different specifically, can be referred to it; but whether these species, so called, formerly confined to some local circle or zone, which is sometimes the case on continents, have been cut off from them entirely and completely — or that the force and change of food and climate, and insulated circumstances, have modified the forms and size, or colours — or that the species have been transferred to those insulated lands by storms or currents, or other circumstances occurring through the agency of nature's ordinary laws — or that these apparently distinct forms have been the subjects of a separate creation altogether—we probably have not sufficient facts yet recorded thoroughly to understand. We know it to be a favourite theory with some, that a creation is presently going on, and some far off insulated points are quoted to prove this; but if the greater attention to facts—of how far species are distinct — what have been introduced species — and what possibility there was of those now known only as insulated to have been transported — will show even a probability of existing laws being the carrying agents — we shall not require to bring in the very convenient, and at the same time for science, very dangerous solution, "They have been created for the locality."

---

* "It is worthy of being recorded, that a noble specimen of the Boa Constrictor was lately conveyed to us (St. Vincent's) by the currents, twisted round the trunk of a large sound cedar tree, which had probably been worked out of the bank by the floods of some great South American river, while its huge folds hung on the branches as it waited for its prey;" and as a proof that the animal had suffered nothing from its voyage except hunger, it is added, "that the monster was destroyed after killing a few sheep."—*Lansd. Guilding, Zool. Journ.*, iii. p. 406.

We find this local ornithology every where illustrated. In the great Eastern Archipelago, "that long curved disjointed mass of land, broken by volcanic force from the south-eastern portion of the Asiatic continent," the forms gradually blend away along the chain of islands, from those of the east of Europe and of India to those marking Australia. Taking only one race as an example; Meliphagous Birds at first appear few in individuals and species, but with every degree increase, until their great metropolis is reached; while in turn they vanish in the far-distant New Zealand, itself giving birth to a very limited, but most singular, and in many instances, a fauna entirely its own. Still, through all this long range, the eastern type is recognized, while within its bounds we have remarkable instances of circumscribed or local distribution, as in the Paradise Birds, and the Ornithology of the Sandwich and Friendly Isles, or Pacific Fauna. Appertaining to Africa, we have the same facts brought out in the curious Ornithology of Madagascar. The types are truly African, but there are many species which we know of as inhabiting that island only, which exhibit very curious modifications of form. The same is borne along to the islands, insignificant in size, but yet bearing strongly on this subject, Mauritius, the isles of Bourbon, and Rodriguez. These once possessed large birds, unwieldy in their form, which are now, like the New Zealand *Dinornis*, known only by their scattered remains. But there are several groups of small islands placed between the Madagascar chain and the eastern shores of Africa, to which no attention has been directed; and it would be of great interest to trace the ornithology of these, and see how far it corresponded with that of the continent or the larger islands.

Again, we have the subject farther illustrated in another small region, which is perhaps the most marked instance known of a peculiar insular zoology. Writing of the Galapagos Archipelago, Darwin remarks—"The natural history of this Archipelago is very remarkable; it seems to be a little world within itself; the greater number of its inhabitants, both vegetable and animal, being found almost nowhere else." In these islands the ornithology retains the South American type, and some of the species are found on the continental lands,* Chili and La Plata; at the same time, there are several birds that were not elsewhere known, inhabiting them, and there are besides a few of a form possessing remarkable characters, beautifully adapted to the curious vegetation of these islands, and which find a supply of food among the groups of cacti, themselves peculiar, and furnishing a common support to them and to the tortoises and lizards, which are also so conspicuous in their fauna. Many of these birds are not known elsewhere; and if we may presume that they are not found upon the mainland, we are driven to the question, How they came upon this insulated space, possessing at the same time continental species?

Now in regard to these statements, until we are in a position to say that we know the zoology of the continent so well, that the animals inhabiting those islands do not exist there or elsewhere, we have no right to presume that a peculiar fauna has been created, and mixed up with another, which we have no hesitation in saying was introduced or transported on the upheaving of these islands; for among the genera of birds which were considered peculiar, there has been a species discovered upon the continent since Darwin wrote of the zoology of these islands, and most interestingly brought forward their remarkable peculiarities. The Great Tortoise is known in many other parts of the world; but the question has been ingeniously raised, Are not these islands the distributing point from whence they have been carried to India, the Mauritius, &c.? Instead of the simple circumstance, that they may have been equally easily carried there, and from the solitude, unmolestedness, and abundant food of succulent cacti, have grown in size and increased in numbers, to the extent that the later navigators have found them. an extent which will soon decrease if the present destruction is carried on. The other reptile so much insisted upon as proving this point, and certainly elsewhere yet unknown, is a very remarkable one, but so far from proving its insulation, it possesses properties of transport enjoyed by few.

---

* "It would be impossible, accustomed to the birds of Chili and La Plata to be placed on these islands, and not feel convinced that he was, as far as the organic world was concerned, on American ground."

It is an aquatic animal, going out to sea in pursuit or search for food, is an excellent swimmer, and apparently so formed by internal structure, as to be able to continue under water for a lengthened period, as a seaman performed the experiment and sunk one, with a heavy weight, in expectation of drowning it, but at the expiration of an hour the lizard was alive and quite active—and where then is the difficulty of such an animal passing (one would almost say in numbers) a distance of 500 or 600 miles? The same solitude, and rest, and abundance of food, will account for their increase and size, and making these bleak shores as it were their own adopted territory.

The ornithological distribution in the archipelago of islands now more immediately under consideration, is somewhat regulated by the same general laws; some of the islands possess peculiar species, but in others, separated no great distance, one species seems to be supplied or represented by another quite distinct, and we cannot at once account for the discrepancy where the facility of intercourse with the continents and each island is so nearly equal. The aquatic birds and waders seem to range around all the coasts in nearly equal proportions, and from the facility with which they shift from place to place, there is no great variation within the range occupied by the archipelago; and it is from the incessorial and land birds, that we must draw our conclusions of the ornithological distribution.

ORNITHOLOGY OF THE ISLAND OF TOBAGO.

(Continued from page 68.*)*

ALL the islands vary to a much greater degree in the species that are found in each than would be at first supposed, this is particularly marked in the Humming Birds. In an old work on the "Caribby Islands" it is remarked, that "Tobago and Barbadoes being the most southerly of all the Caribbies, are furnished with several sorts of beautiful birds not to be found in the more northerly"—and of the Humming Birds, "but according to the diversity of the islands, they also differ as to bigness and plumage." Mon. D. Lavaysse tells us, "that although the vegetation is nearly similar in both, there are found in Trinidad, quadrupeds and birds, which do not exist in Tobago; while in Tobago there are some birds which belong to the continent, and which are not found in Trinidad; the Katraka (our *Ortalida ruficauda*) for example; and what is more singular, that although they have been brought in numbers, and have been set at large in the woods, they have not bred or multiplied there. The Hoccos, so well known in Trinidad and on the continent, are not found in Tobago."

The Baron de la Fresnaye, in a recent letter to Mr. Gould, writes —"It is certain, that a great many species of different islands of Antilles, though very nearly allied, constitute nevertheless distinct species, confounded in the same by authors."

Of the two central islands in this archipelago, the principal, as regards their extent, one only has been examined with any care.

Cuba, in the present century, has had more attention directed to its ornithology than most of the other islands. In 1827, William S. Macleay transmitted to Mr. Vigors a collection of bird skins from that island; these were thought worthy of attention, and Mr. Vigors, in bringing a short description of them before the Zoological Society, of which he was then secretary, made the following observations, which showed the important light in which he held the increase of our facts to geographical ornithology —

"When we can obtain authentic information respecting the range to which species extend, either as indigenous to different countries, or visitors of them during their periodical migrations, we increase the number of these facts on which we are enabled to found some of the higher speculations of science."

M. Temminck figures many interesting Cuban species in the *Planches Coloriées*, and remarks, when describing *Turdus rubripes:* "Le position géographique de l'Isle de Cuba entre les deux Mexiques et les terres de l'Amerique meridionale, ne ferait point supposer que les oiseaux dont elle est peuplée offrissent des differences specifiques avec ceux trouvés dans les contrées des deux Ameriques qui forment le littoral du Golfe du Mexique, si plusieurs especès rapportées récement de cette îsle et de quelques-unes des Antilles n'eusent servi à nous prouver que ces îlles nourissent aussi des espèces d'oiseaux et de mammiferes qu'on n'a point encore trouvées sur le continent."

William Denny, Esq., staff-surgeon, has recorded some observations on the geographical distribution of birds in the West Indian Islands, in the nineteenth volume of the Annals of Natural History. In Cuba, several notices of species are given, which exhibit still a partially northern type, though not so much so as in Jamaica, thus forty-five species, exclusive of the waders and aquatic birds, are made common to Jamaica, Cuba, and the United States ; but Jamaica and Cuba in addition, possess also sixty-seven species unknown in North America. Mr. Denny also in a note written to myself, has well marked the ornithological character of this island and its tropical bearing — "A stranger arriving at Cuba from the United States during winter, would imagine that the ornithological features of that magnificent island were the same as the former. The presence of the *Mimus polyglottus*, the gaudily attired *Pyranga rubra*, and numerous species of *Sylvicolæ* on the land, the Belted Kingfisher and well known aquatic birds on the coast, would strengthen if not confirm the belief. A more accurate observer, however, would not fail to detect, by troops of the *Crotophaga ani*, flocks of Flamingoes, on the margins of the aguados, and *Tachypetes* and *Phäethon*, far overhead, that a tropical character was decidedly added to the zoological aspect of the country. In the mountains every fresh ascent affords, with a new air and scenery, a change in the plants, birds, fishes, and insects. The traveller is not more delighted with the refreshing coolness of the air and delightful prospects, than with the Parrots (among others the *P. leucocephalus*, totally distinct from the *P. collarius* of Jamaica),* *Trongon* (*temnurus*), Rain-Birds (a modification of *Saurotheræ*, Motmots (*P. momota?*)† and several species of the true *Icterinidæ*. The genera *Phyllostoma*, *Noctilio*, and *Vampyrus*, of the family of *Vespertiliones*, equally characterize this interesting region. I have been informed, from good authority, that districts still higher, present Petrels, Snakes, and Lizards, which have never been described or found their way to the cabinets of Europe.

"In this island the genera *Todus* (*T. viridis* and *multicolor*), and *Ptilogonys* (*P. armillatus*), first make their appearance. The presence of so many South American or tropical groups, demonstrates that a new ornithological region commences; and in my opinion, is evidence of no unimportant nature to lead to the belief, that Cuba was never united to any land further north than the twenty-fifth degree of latitude."

The most detailed account however of the island of Cuba, is that by M. Ramon de la Sagra, the ornithological department of which was intrusted to M. D'Orbigny, and has been published in an 8vo. volume of 336 pages, accompanied by a folio atlas of plates, in which we have to regret the refiguring of so many well-known species, particularly those of North America, thereby adding grievously to its expense. The entire number of species here described is 129; and in conclusion, or as a resumé, D'Orbigny remarks: "Si, aprés avoir passé successivement en revue tous les oiseaux de Cuba, nous voulons résumer ce que nous venons de dire à leur égard, nous trouverons que le cent vingtneuf, especès que nous possédons sont ainsi distribuées sur a sol Américain.

1st. *Quatorze, ou un neuvième* des espèces, se trouvent en même temps, dans l'Amerique méridionale habitant Cuba comme une dépendence de la zone équatoriale, leur patrie exclusive.

2d. *Quarante-neuf* espèces, ou presque *un tiers* de la totalité, viennent de l'Amerique septentrionale à Cuba, lors des migrations hivernales, étant propres seulement à l'hémisphère boréal.

---

* Gosse considers *P. collarius* the young of *P. leucocephalus*, but with a ?

† *Momotus* is not enumerated by Ramon de la Sagra.

3d. *Vingt-six* espèces, ou près d'*un cinquième* de la totalité, se trouvent en même temps, sur les deux Ameriques et à Cuba; sur ces vingt-six espèces, *quinze* sont sédentaires et reparties indifféremment sur des zones plus ou moins larges, tandis que *onze* passent seulement à Cuba, dans leurs grandes migrations de l'hémisphère nord à l'hémisphère sud.

4th. *Huit* espèces, ou plus d'*un seizième*, se sont répandues, par les glaces du pôle nord, sur les continents Américain et Européen, sur chacun desquels elles suivent les simples migrations hivernales, des régions foides vers les régions chaudes.

5th. *Cinq* espèces, ou un vingt-sixième du chiffre total, plus indifférentes encore au changement de température, sont également passées par le pôle de l'ancien au noveau monde, òu elles exécutent les grands voyages annuels d'un hémisphère à l'autre, en passant par Cuba.

6th. Enfin, *vingt-sept* espèces, ou près d'un cinquième de l'ensemble, sont sédentaires à Cuba ou aux Antilles, leur patrie exclusive.

Il nous paraît donc prouvé, comme on devait s'y attendre, que, par sa position geographique, Cuba reçoit de l'Amérique septentrionale la plus grande partie de ses oiseaux, tandis que l'Amérique méridionale ne lui envoie que les espèces propres à la zone torride, toutes les autres n'y passant même pas dans leurs migrations, ou étant spéciales aux Antilles.

The ornithological productions of the great island of St. Domingo, it is to be regretted, are little known. M. Vieillot resided in it for some time, and on his return to Europe, communicated his observations to Buffon, who was unable to make use of them. He remarks, in the "Avertisment" to the Oiseaux de l'Amerique Septentrionale, that the species resident in St. Domingo are only few in number; and he observes, in the introduction to the same work, that it is used, as well as the neighbouring islands, as a retreat for many northern species, as well as such as breed only in Virginia, Pennsylvania, and Canada. *Trochilus aurulentus* and *swainsonii*, Less., have lately been received from Hayti by Mr. Gould.

Jamaica, now well known ornithologically, from the recent works of Mr. Gosse, from its position to the southward of these two last mentioned islands, might be expected somewhat to resemble them and the southern continent opposite, but it tends, with a few exceptions, more to the ornithology of North America than any of the others, leading to that of the Carolinas and the southern parts of the northern continent. It possesses a large number of *Sylvicolinæ* and other North American species, but with one exception, it wants all the true northern Woodpeckers. It has however a considerable number of *Psittacidæ;* three Humming Birds—species not common or wanting in most of the other islands. The *Crotophaga* is the large species, differing from that found in Tobago or Trinidad. But being an island of large extent, and abounding with wood, its ornithology is more particularly characterized by the want of the more truly South American genera, such as *Galbula*, *Momotus*, *Trogon*, *Pipra*, &c.

Porto Rico, again, of much larger comparative size than the numerous archipelago circling between it and Trinidad, shows a partially south-continental ornithology; but it will, in all probability, draw a great many of its species from St. Domingo. M. Ledru mentions *Centrurus radiolatus*, *Loxia (spermophila) portoricensis*, and *Saurothera vetula*, all common Jamaica birds, but which, so far as we know, do not occur towards or in Trinidad. As resembling North America, we have *Falco sparverius*, a considerable number of *Sylvicolinæ*, *Columba carolinensis* and *leucocephala*, which however may be all entirely or partially migratory. As traced from Guiana, we have *Rupicola aurantia* and *Psittacus guianensis*. Four Humming Birds are mentioned, two of which, *T. margaritaceus* and *mango*, common in Tobago and Trinidad, do not reach Jamaica. On the other hand, the true continental types, *Galbula*, *Trogon*, *Momotus*, *Rhamphastos*, &c., are wanting.

From Trinidad we have no correct or extended lists, but all our information tends to make its productions continental, and nearly allied to those of the opposite mainland. It is perhaps the only member of the group where we now find the *Rhamphastidæ*, and the more splendid *Ampelidæ*, while the Humming Birds are very numerous. According to Lavaysse, various Parrots, two species of *Toucan*, and the *Crax*, are among the continental species. M. Ledru, in the expedition of Baudin, was not permitted to land, and his remarks are therefore not numerous; he confirms however the continental character of its ornithology. Parrots and one species of *Toucan* are mentioned, and the *Rupicola* is noted. This last bird was met with by Sir R. Schomburgk in Guiana, and we frequently receive skins in collections from Surinam; and it was no great step to Trinidad, if the localities in that island were suitable for its habits; but it is remarkable to find the other nearer islands passed over, and a species locally distributed on the continent inhabiting Porto Rico, a distant island.

Of the smaller isles we know almost nothing; they have not been deemed worthy of examination. A scattered notice here and there, and that often not to be trusted, exists. There is, however, one exception to these remarks, thanks to Sir Robert Schomburgk for his recently published History of Barbadoes. This island presents some curious points to us. Though exceeding Tobago in extent, the entire number of species known to frequent it will not much exceed sixty, Sir Robert only enumerating fifty-five, of which forty are migratory. "The absence of woods or forests, and the scarcity of umbrageous trees, is doubtless the reason that Barbadoes possesses so few of the feathery tribe. The number of indigenous species do not amount to fifteen, and there are perhaps forty species which are considered birds of passage, or are only seen occasionally in the island." The absence of wood is the easy solution of the limited numbers, and also of the great proportion of the species belonging to the waders and true water birds. Of the others, we have three birds of prey, all indigenous, and all North American. We have *Trochilus cristatus* (not that we know of, found in the other islands), *Psittacus passerinus*, *Quiscalus crassirostris*, and two *Spermophilæ*, all indigenous; with the *Turdus jamaicencis*, *Hirundo dominicencis* and *Tachornis phœnicobia*, Gosse, migratory, as the representatives of a southern fauna. All the others are generally spread around the islands, and may be considered as more northern or rather temperate types.

With regard to the more recent changes in the ornithology of the various islands, we possess only partial and limited proofs. No doubt, population and its attendant circumstances would thin out or even extirpate some species, while the cultivation of maize or other grains might attract others; but above all other causes, the destruction of the wood, which appears to have taken place on many of the islands, would have an influence on the species which inhabited them. This destruction has commonly been caused by fire, frequently raised by mere wantonness or carelessness, and often extended over the whole length and breadth of the forests; it must always have a temporary effect upon the natural productions, while on islands of small extent, the destruction of the entire wood would materially affect, if not completely change their zoology. Writing of the Danish isles, M. Ledru states, that when discovered by Europeans, they were covered with wood, the decomposition of the fallen parts of which formed a layer of soil more or less deep, and well suited for vegetation. These woods were principally destroyed by fire.* Barbadoes privateers, about 1702, landed on the island of Gaudaloupe, and "burnt a great part of the west end of it." † Sir Robert Schomburgk states, "that it is a fact which remains uncontested, that within the last fifty years, Barbadoes was much more wooded than it is now," ‡ and that the greater part of the cocoa-nut trees on the coast regions, were destroyed during the awful hurricane of 1831. § In the island of Tobago, there seem to have been at one time a few species which do not now exist. In an old work relating to "The Famous and Fertile Island of Tobago," by Captain John Poyntz—of fowl, he enumerates and describes the bill-bird (*i.e.* toucan), blackbird, booby, blew-headed parrot, two sorts of parraketoes, macaw, flamingo, duck, sea-gull, sea-mew, plover, turtle-dove, man-of-war-bird, bird of paradise or kingfisher, pelican, cockerrico or Tobago pheasants, curlews, wood-pigeon, and many other birds; and we do not think that Toucans would have escaped the notice of our correspondent, had they been now found on the island. In Tobago, as described in the work of Davies, we have notice of mammalia which do not now exist upon it; and of the ornithology he says, "not to mention the wood-quists, turtles, partridges, and parrots, which are commonly seen there, it affords abundance of other birds not seen in Europe." There are also other causes which may change the Zoology of those islands in a remarkable degree. They are swept over by hurricanes creating immense devastation. Tobago, in 1780, was visited by a severe hurricane, but we have no record of its effects on the zoology. In 1847, it was again visited by one of great power. In answer to some of my queries in regard to its effects on the ornithology, Mr. Kirk replies—"It would appear that the habits of the birds are now entirely changed, and of the game kinds, especially cockricos (*ortalida*), some are nearly annihilated. The trees were not only divested of leaves and fruit, but were denuded of their branches and limbs, and fully one-half of them were either broken, twisted, or torn from the roots. The result of which was, that all the berry-feeding tribes sought the low lands, and both cockricos, parrots, partridges, and doves, were caught in abundance; indeed, parrots were so weak, that when they alighted upon the ground to pick guavas or limes, when taken by surprise, they were unable to get off; and at this moment, birds found only in the interior, are now abundant on Sandy Point, fourteen or fifteen miles from their native haunts. I have not seen a Trogon since the hurricane, and I fear they are nearly destroyed." We should add to this, that among a small package of skins, sent over after the hurricane, there were continental species which had not been previously observed.

---

* II. p. 367.

† Schomb. Barbadoes, p. 309.

‡ P. 27.

§ P. 649.

DETAILED CHARACTERS

OF

SOME SPECIES OF PLANTAIN EATERS, *MUSOPHAGIDÆ*[*]

By Dr. EDOUARD RÜPPELL,
Frankfort on the Maine.

Translated from the Archiv für Naturgeschichte, vol. xvii. part i. page 348, by H. J., April 1852.

Although hitherto only a few species of Plantain Eaters have been described and figured, and although each of them is easily distinguished by well defined characters, yet in the enumeration of them in Bonaparte's latest publication, "Conspectus Generum Avium," Leyden, 1850, fresh errors have crept in, which I feel myself bound to correct, as the rich materials of the Senckenburg Museum supplies me with the best opportunity for doing so. These corrections refer to Cuvier's *Turacus persa*, the *Cuculus persa* of Linnæus, under which appellation Bonaparte has, according to my view, united three very different birds, although he had already admitted the separation of a fourth species, *Turacus albocristatus*, which previously was also referred to *Turacus persa*. Wagler distinguished it (1827) long before Strickland, under the denomination, *Spelectos corythaix*, consequently this bird must bear the specific name of *Turacus corythaix*.

How Bonaparte happened to enumerate under the synonyms of *Turacus persa*, that figured by Jardine and Selby in their Illustrations of Ornithology, pl. 122, as *Corythaix buffonii* (Vieillot), is very surprising, when a mere comparison of this figure, or of the head of one which Swainson published in vol. i. pl. 21, of his Birds of Western Africa, with Edwards's representation of *Turacus persa*, (Natural History of Birds, pl. 7, London, 1743), shows the remarkable difference between these two birds, the latter of which has a white stripe over and under the eye; whilst *Corythaix buffonii* has only one white stripe, and that above the black, between the corner of the mouth and the eye. Le Vaillant's figure of *Turacus buffonii* (Promerop. part iii. pl. 17), is besides not correct.

---

[*] A correction of a paper written by myself upon the same subject, and published in the 9th Bericht der Basler Naturforschenden Gesellschaft (1851).

It has hitherto quite escaped naturalists, that when one compares Edwards's accurate description of the 7th plate of his Natural History of Birds, and his figure of the bird, they do not agree. The words of his description run thus. (In Seligmann's translation, which exactly corresponds to the original text):*—"Von dem Winkel des Mundes zu dem Auge eine breite schwarze Linie, welche schmaler wird unter dem Auge hinweg, und darüber hinaus läuft. Unter dieser schwarzen Linie ist eine weisse, die sich hinterwärts etwas weiter als die schwarze erstrecht, vornen aber nicht so nahe zum Schnabel kommt; eine andere weisse Linie geht vom Winkel des Mundes über das Auge, läuft aber nicht so weit nach hinten als die untere; auf dem Kopfe hat er eine Krone, die er nach Belieben ausbreitet, und an welcher die *Spitzen der Federd roth sind; der Rucken, die Flügel und der Schwanz haben eine schöne bläuliche Purpurfarbe.*" But in the figure, the points of the crest-feathers are the same grey colour as the entire upper head, and of red there is no visible sign; further, the entire upper half of the back and wings is of the same green colour, and by no means beautiful bluish-purple. As we have specimens of two species of *Turacus* in our Museum, from whose combination of colouring the difference which exists between Edwards's figure and description has arisen, so that discrepancy explains itself by the admission of the truthful Edwards himself, "That he had made his figure (and description?) after two different birds of this species." The one bird of our Museum accurately exhibits the colouring of Edwards's plate; as now Linnæus refers to this plate as that of his *Cuculus persa*,* he in fact gives an accurate description of this plate, without speaking of the red tips of the crest, any more than Brisson does;† so Gmelin appears, in his 13th edition of the Systema Naturæ, to have been the first who, disregarding the colouring of Edwards's plate, has merely adopted the description in his text, as that of Linnæus's *Cuculus persa*, for he speaks of "crista mobilis apice rubens, humeri, tectrices caudæ superiores alarumque majores ex cærulescente purpureæ." That species of *Turacus* which Edwards in his description indicates by the red tips of the crest, and by the fine purple blue colouring of the entire back, wings, and tail, has long existed in our Museum, without any certain indication of its habitat, and it had erroneously borne the title of *Turacus persa*, Linnæus. The white stripe round the eyes, above the black line, between the corner of the mouth and the orbit, is wanting, yet it agrees accurately with Edwards's description. Had we not recently obtained the true *Turacus persa* of Linnæus, that is to say, the bird which Edwards figured, through the kindness of Professor Peter Merian, the founder of the Basle Museum, I should not have been in a position to discover the errors in descriptions and synonyms of the birds denominated *Turacus persa*, the specific character of which I now flatter myself I have established in a satisfactory manner. I propose to indicate one of those birds, that namely with the red tips along the quadrant shaped crest, as a new species, under the name *Turacus meriani*, and for the clearer understanding of all the known species of the whole genus, I give a synopsis of the distinguishing characters of each.

---

* M. Rüppell is mistaken as to the correctness of Seligmann. His words, retranslated, are as follows—"From the corner of the mouth, a broad black line, which becomes narrower and runs under and beyond the eye. Under this black line is a white, which extends backwards somewhat further than the black, but in front does not come so near to the bill; another white line goes from the corner of the mouth above the eye, but does not run so far behind as the under. On the head is a crest, which it expands at pleasure, and on which the points of the feathers are red: the wings and the tail have a beautiful bluish purple colour." But in Edwards's own words it runs thus—"From the corner of the mouth to the eye is a broad black line, which grows narrower, and extends itself under and beyond the eye; under this is a white line, which extends itself a little farther back than the black line, but doth not come forward so near the bill; from the corner of the mouth is extended another white line, which passes above the eye, but not so far back as that beneath; the head, neck, breast, and lesser coverts of the wings, are of a fine dark green colour; on its head it hath a crest, which it raiseth at pleasure; the very tips of the feathers in the crest are red; the thighs, lower belly, and coverts under the tail, are dusky or black; the back, wings, and tail, are of a fine bluish-purple colour."—Copied from Edw. Birds; description of pl. 7.—*Translator.*

---

* In the 10th and 12th edition, compiled by himself, Stockholm, 1758 and 1766.

† Cuculus cauda æquali, capite crista erecta, antice viridis, postice subviolaceus, remigibus primoribus rubris, linea alba supra et infra palpebras sanguinea.

TURACUS, CUVIER.—1ST SUBDIVISION.

Nostrils near the base of the bill, partly covered by feathers directed forwards.

1. TURACUS PERSA, LINN. nec GMELIN.

Habitat, Guinea. Head and the compressed feathers of the crest, throat, breast, upper half of the belly, wings, and back, beautiful grass green; hinder half of the wings dark steel blue; wing-feathers carmine red, with greenish-black edges. From the corner of the mouth, extending under the eye, a black stripe; above the same, as far as the half of the orbit, a white stripe; beneath also a white stripe, which begins from the ear, and extends almost to the corner of the mouth. Figured, Edwards's Natural History of Birds, pl. 7.

2. TURACUS MERIANI, RÜPPELL.

Habitat unknown. Head and the compressed feathers of the quadrant-shaped crest, throat, breast, and upper half of the belly, beautiful grass green; wings and upper back steel blue, with a purple gloss; wing-feathers as in the foregoing species; the tips ot the crest-feathers dark carmine red. From the corner of the mouth, extending under the eye, a black stripe; only beneath the same is a white stripe, beginning at the ear and extending towards the corner of the mouth. A figure of this bird is not known to me.

3. TURACUS CORYTHAIX, WAGLER.

Habitat, South-west Africa (Cape Colony). Synon. *Turacus albocristatus*, Strickland. *Corythaix*, Lesson.

Head, compressed feathers of quadrant-shaped crest, breast, throat, upper belly and wing-bend, beautiful dark grass green, the points of the crest-feathers white; a black spot between the corner of the mouth and eye, surrounded above and below with a white stripe, the latter of which extends to the ear. Figured, Le Vaillant, Promerop. part iii. pl. 16.

4. TURACUS MACRORHYNCHUS, Fraser.

Habitat, East Africa ?* Head, throat, upper back, breast and upper belly, beautiful grass green; the vertically compressed feathers of the quadrant-shaped crest have white points, edged with violet purple behind; behind the eye, towards the ear-coverts, a whitish spot; wing-coverts and back dark violet purple. Figured, G. R. Gray, Genera of Birds, pl. xcvii.

5. TURACUS BUFFONII, Vieillot.

Habitat, Senegambia! Synon. *Spelectos persa*, Wagler. *Corythaix senegalensis*, Swains. *Corythaix purpureus*, Lesson.

Head and its crest, which is directed backwards, and not compressed, throat, breast, upper belly, and upper back, as well as the small wing-coverts, fine dark grass green. A black stripe from the corner of the mouth below the eye, as far as the ear; above the same, as far as the front orbit, a white stripe; the carmine red of the greenish-black wing-feathers somewhat darker than in *Turacus persa*. Figure of the head—Swainson, Birds of Western Africa, vol. i. pl. 21. Of the birds—Jardine, Illustrations, pl. 122; Le Vaillant, Promerop. part iii. pl. 17; both indifferent.

6. TURACUS LEUCOTIS, Rüppell.

Habitat, Abyssinia. Forehead, eye region, throat, breast, upper back, upper belly and bend of wing-coverts, grass green; the crest of the head, which is rounded, greenish-black; a spot between the corner of the mouth and eye, and a vertical stripe on each ear-covert, of white; middle of back, coverts of wings and tail, lower body, rump and thigh, greenish ash-grey. Figured, Rüppell, Neue Wirbelthiere, pl. 3.

---

* Fraser gives the habitat as unknown.

7. TURACUS ERYTHROLOPHUS, Vieillot.

Habitat, Congo? West Africa. Forehead, a stripe along the hinder part of the sides of the throat, fine carmine red; the tips of the rounded crest on the crown, white; region between bill and eye, beneath the eye as far as the ear and gorge, white; throat, breast, and upper body, grass green; back, wing-bends and wing-coverts, dark grass green, with peacock-tail lustre. Figured, Temminck, Planches Color. pl. 23.

TURACUS, Cuvier.—2d Subdivision.

Nostrils placed in the middle of the bill, whose basal feathers *are not* directed forwards.

8. TURACUS PORPHYREOLOPHUS, Vigors.

Habitat, South-east Africa (Port Natal). Synon. *Gallicrax anais*, Lesson.

Forehead and region around the eye, dark green, with peacock-tail lustre; the rounded crest of the head and stripe along the nape, blue black, with steel blue gloss; gorge, throat, breast, upper belly, upper back and coverts on the wing-bends, reddish-green; middle back, and remaining wing-coverts, greenish-blue. Fignred, Smith, South African Zoology, pl. 35. — (Jard. and Selby, Illust. Orn. N. S. pl. 46).

9. TURACUS GIGANTEUS, Vieillot.

Habitat, Congo? Forehead, region around eye, throat, breast, back, wings, and upper two-thirds of tail, blue green; on the head a rounded crest of bluish-black; belly, and middle part of the two outer tail-feathers on each side, dirty greenish-yellow; the remaining third of all the tail-feathers black, with greenish-blue tips; thigh and rump, rust red. Figured, Le Vaillant, Promerop. part iii. pl. 19.

SOME SPECIES OF PLANTAIN EATERS, *MUSOPHAGIDÆ*.

In all the known species of *Turacus*, the plumage of both sexes and of the young birds is coloured alike; the same is the case with the *Schizœrhis* and *Colius*. The species of these three genera live together in families—they have only been observed as yet on the African continent—they have similar habits and food; and form together a natural family, with which the American *Opisthocomus* is connected.

ON THE GEOGRAPHICAL DISTRIBUTION
OF
THE GENUS *TURACUS* (CUVIER)

By Dr. G. HARTLAUB of Bremen.

(Translated by H. J., April, 1852.)

D. E. Rüppell in the first part of the seventeenth vol. of "Archiv für Naturgeschichte,"* has submitted the entire species of the genus *Turacus*, Cuv. (*Corythaix*, Illig.) to a critical revision, and made a corrective and interesting communication with regard to the true *Cuculus persa*, Linn., for which science owes him thanks. In that work, Bonaparte's Synopsis of these birds, in his "Conspectus Generum Avium," is justly indicated as not free from errors. The same remark will apply to a not unimportant part of Rüppell's work, namely, on the statement of the habitat and the geographical distribution of each species; and in regard to this, it may be permitted to bring forward here some remarks and additions, the publication of which, with a purely scientific object, cannot fail to be acceptable even to Dr. Rüppell himself.

1. TURACUS MERIANI, Rüpp.

"Habitat unknown." Brisson, who unmistakeably describes the adult fully plumaged bird of this species, names Guinea as its habitat; and this statement finds its confirmation, by a late communication of the brothers Verreaux, in the "Revue et Magasin de Zoologie" for 1851; where, in p. 258, a specimen, apparently rather younger, of the same species, coming from Gaboon, is fully described. The diagnosis prepared by Bonaparte, says—"Minor, crista viridi, margine extremo rufo, superciliis vix ullis." He considers in the birds from Gaboon, that he has found the true type of *Cuculus persa*, Linn., and cites thereupon Edwards, pl. 7.

---

* Translated on preceding pages.

2. TURACUS CORYTHAIX (Wagl.) (ALBOCRISTATUS, Strickl.)

"Habitat, South-west Africa." This species, described by Le Vaillant, Forster, and others, as numerous in Cape Colony, appears also to occur high up on the east coast, for Bianconi* of Bologna, in his rather inaccessible work, "Specimina Zoologica Mosambicana," p. 34, part iii., very clearly describes a specimen sent by Formasini from Mozambique.

3. TURACUS MACRORHYNCHUS, Fraser.

"Habitat, East Africa.?" We have lately received the most satisfactory information in regard to the habitat of this species. Dr. Thomson, one of the naturalists of the late Niger Expedition from England, collected this species in the forests of the West African island Bimbia, and off the Cameroon Coast, and relates concerning it as follows (p. 290 of the 2d vol. of the "Narrative of the Expedition, sent by H. M. Government to the River Niger)." "We were so fortunate as to procure from the same tree three specimens, each having the crest in a different state; in one it was simply green; in another green with a black margin; in the third green with a thin line of black margined over all with purple. In all other respects they had the same plumage. It is quite clear to us, they were merely of different ages." For a second statement, as to the locality of this species, we are indebted to C. Sundevall, according to whom, a specimen, brought by Afzelius from Sierra Leone, is to be found in the Stockholm Museum: "Foglar fran Sierra Leone." Öfversigt af Kongl. Vetenskaps-Academ. Forhandlingar, 1849, p. 160. Here however it is said—"Apices nigri è filis discretis plumarum cristæ, ferè 5 mm. longi cum spatio brevissimo intermedio *albido*, vix nisi attentè observanti apparent; nullum vero marginem nigrum formant; an detriti?"

---

* The species of Honey-sucker described in the same place, and named *Cinnyris discolor*, Vieill.? is a new one: "Macula scapulari nitidissimè violacea," well distinguished from *discolor*. We propose to call it *C. bianconii*.

4. TURACUS BUFFONII (Vieill.)

"Habitat, Senegambia." *T. buffonii* is to be found in every large consignment of Senegambian birds, and moreover, seems to occur along the whole Guinea Coast. One specimen is to be found in the Stockholm Museum, sent from Sierra Leone; Sundev. l. c. p. 159. Dr. Gordon observed and shot this species in the thick forests of Cape Coast Castle, where it is very common; Sir W. Jardine, Contribut. to Ornith., 1849, p. 11. Gordon remarks thereon, that his specimens had a very clearly defined white stripe under the eye. The Verreauxs describe a specimen from Gaboon, and say expressly, that it differs in no respect from the Senegal one; Rev. et Mag. de Zool., 1851, p. 358. The Hamburg Museum received specimens from Elmina. And lastly, Fraser found this species at Fernando Po, and it was from thence that the one figured by Sir W. Jardine came.

5. TURACUS ERYTHROLOPHUS (Vieill.)

"Habitat, Congo?" In regard to the habitat of this species, more exact particulars are to be desired; nothing authorizes us in assuming Congo as its habitat. Lesson names Senegambia; and Dubois, who figured a specimen which is in the Brussels Museum in his Orn. Galérie, pl. 61, says South Africa — both we fear without good ground. Bowdich represents *C. paulina* as certainly coming from Sierra Leone, without however describing it; Excurs. to Porto Santo, &c., p. 229. Without doubt it is a West African species.

6. TURACUS GIGANTEUS (Vieill.)

"Habitat, Congo?" Only the rather vague conjecture, that G. Maxwell's "Boolicoco" could mean *T. giganteus*, appears to indicate the occurrence of this species in Congo ("Observat. on the Countries of Congo and Loango;" Edinb. Philosophical Journal, vol. vi.). But a more certain locality appears to be the Island of Fernando Po, where Fraser and Thomson observed it: "Expedit. Riv. Niger, vol. ii. pp. 221, 504." This bird frequents the extreme tops of the highest and most thickly foliaged trees, and is very difficult to shoot. Further, the Leyden Museum, some years ago, received numerous specimens from the Gold Coast, and one is to be found in Stockholm, brought home by Afzelius from Sierra Leone. Sundev. Öfvers. Kongl. Acad. Förhandl., 1849, p. 160.

So much for the habitats and geographical distribution of these birds.

Whether Rüppell has good reason or not, when he declares that the bird described by Edwards, and the one figured by him, specifically differ from one another, we are unable either to confute or confirm, by means of the specimens which the collection of this place offers for our comparison. But at all events, this conclusion is rendered highly improbable, by the remarkable statements mentioned under Nos. 3 and 4. The following assertion is directly opposed to those observations—"Almost all known species of *Turacus* have the plumage of both sexes and the young birds of the same colour." It follows from what is said above, that in some species the colour of the edge of the crest varies with the age of the bird; and the same we must mention in regard to the clearness and extension of the characteristic white stripe of the eye, founded upon an observation frequently made on specimens of *Cor. buffonii*, where the place of the bright white stripe is only indicated by a few white feathers. Andrew Smith remarks, that in the female of *Turacus porphyreolophus*, the plumage is much less brilliantly coloured, and that especially the beautiful red of the wing-feathers is much less expanded than in the male bird.*

---

* I have no doubt, that Dr. Rüppell is mistaken in separating *T. meriani* from *T. persa*. Had he consulted Edwards's original work, instead of Seligmann's German translation, he would have seen not only that Seligmann's text varies considerably from the original of Edwards, but that Edwards's plate does in fact entirely correspond with his description. In all the copies of Edwards which I have seen, the bird is coloured with a red margin to the crest, as stated in his description; and it is consequently only from the inaccurate colouring of Seligmann's copy of Edwards's plate that M. Rüppell has been led to separate his *T. meriani* from *T. persa*. The latter specific name will therefore stand for the red-margined *Turacus* of Edw., pl. 7, and the *T. meriani* will sink into a synonyme of it.—H. E. STRICKLAND.

ORNITHOLOGY

OF THE

UNITED STATES EXPLORING EXPEDITION.

THE Ornithology of this expedition was, we understand, intrusted to the charge of Mr. Peale of Philadelphia, and we looked for the publication of the volume with much interest. At the time when we knew the text had been printed, having seen a copy forwarded by the American Government to the British Museum, and which we quoted, "Contributions" 1851, p. 113, we applied to the American and other booksellers in London in vain for it, and copies were ordered equally without success, but at the same time without giving any reason that we thought sufficient, for not being able to procure a work which we had seen in this country. Inquiries from America were also fruitless; but a letter from a correspondent last month, has now explained the matter, and we think it right that our information regarding a work of such importance should be communicated to our subscribers.

"It is now quite impossible to obtain the volume on Quadrupeds and Birds of the Voyage Vincennes and Peacock. The Government of the United States authorized the printing of one hundred copies only of each volume, at the expense of the treasury, but furnished, at the cost of *additional* volumes, as many copies as the authors thought proper to order for their personal benefit, a privilege of which all of them availed themselves except Mr. Peale, author of the volume on Quadrupeds and Birds. Not a single extra copy of his volume was printed, and consequently it has never been for sale. About ninety copies were presented to the National and State Libraries of Europe and America, and those remaining have recently been destroyed by a fire, in the apartments occupied by the library of Congress. The atlas was never completed."

This is one of those unfortunate circumstances which preclude a work from being used or consulted generally, though at the same time it will be used to the annoyance and confusion of those who have no opportunity to consult it, or unravel what may be quoted from it. There are one or two parallel cases, and we almost wish that some recognized usage was adopted, in cases where the work had been nearly destroyed before circulation, or was otherwise virtually inaccessible. The American work, as originally published, is in this condition; but we have reason to believe that it will be reprinted, or rather that an entirely new work, by a well known American ornithologist, will be written from the materials which furnished the matter for that which we may consider lost.

BALÆNICEPS REX, GOULD,

BY

DR. BARON J. W. VON MÜLLER.

Translated from the *Naumannia*, Archiv für die Ornithologie, &c., by H. J., May, 1852.

FROM one of these islands (near Chartum on the White Nile), I saw two large birds arise which excited my curiosity to the highest; unfortunately I could not obtain them, and it was long before they again came into my view. These two birds differed from all birds known to me, by an enormously large spoon-shaped bill, and I was convinced that it must be a new and interesting genus. After my return from Kordofan, a collection of skins was offered to me, in Chartum, for sale by a resident European (Nicola Ullivi), amongst which I saw two birds, which I immediately knew to be the same as those I had observed on the White Nile. My desire to obtain both these birds caused the man to anticipate their value, and he desired of me the exorbitant price of a thousand dollars for his collection. Gladly as I would have brought away this offering to science, yet my means did not admit of the purchase, as I had been completely plundered in Kordofan. Though somewhat disappointed, I expressed to my secretary, the hope that we should soon see these birds make their appearance in England. My prediction is now fulfilled. The celebrated English ornithologist, Gould, has recently made known this genus, under the name of *Balæniceps*.

The *Balæniceps* of Gould belongs to the class of *Grallatores*. It is the size of a small pelican. Its enormous bill, similar in form to *Cancroma*, ends in a strong hook, is yellow in the male, and in the female brownish-red, with a paler brown ridge. The nostrils are much extended longitudinally. On the under jaw is a fold of skin, which probably is capable of extension into a sort of pouch. The toes are without webs, and the tibia is black beset with proportionably very small marked scales. The skin round the eye is bare and yellow. Nape feathers lengthened to a short crest. The colour of the whole plumage is ash-grey, on the upper side darker than on the belly and thighs.

ORNITHOLOGICAL OBSERVATIONS

By PHILIP LUTLEY SCLATER.

VIII.—FURTHER REMARKS ON THE *GALBULIDÆ*.

PLATE XC.

SIR WILLIAM JARDINE writes me, that he has an example of *Galbula melanogenia*, described p. 61 of the present year's "Contributions," and of which a figure is herewith given from Veragua, whence it was sent with other skins by Mr. Gould's collectors. Central America is therefore without doubt its true *habitat*, many birds having been brought by M. Delattre, by whom I imagine my skins of this species were collected from that quarter. We have therefore four very similar but yet distinct species of these birds, each inhabiting a different region of tropical America; an additional instance to the thousand others existing, of that remarkable law, by which we find different geographical localities tenanted by different yet closely allied and corresponding ornithic species. The four above mentioned birds are alike in the upper plumage and breast-band of a shining golden green, but may be distinguished at once by examination of the tail-feathers. Taking them geographically, the most northern species first, we have—

1. *G. melanogenia*, from Veragua; 4 medial rectrices green, 3 next on each side pale rufous brown.

2. *G. ruficauda*, from Trinidad, Tobago, Venezuela; 2 medial green, others wholly rufous brown.

3. *G. viridis*, from Cayenne, Amazons; rectrices beneath nearly uniform blackish-green.

4. *G. maculicauda*, from S. Brazil, Bolivia; outer rectrices rufous brown with blackish blotches at the extremities.

Sir William Jardine has also called my attention to the fact that the *Galbulæ* have really twelve rectrices, as the *Alcedinidæ* and the greater part of the *Insessores*, but the outer pair are so diminutive that they are nearly entirely concealed by the under tail-coverts. In describing the *rectrices* of these birds in the synopsis of species given, page 29-33, I have omitted to count this exterior pair, not having been aware of their existence. In *G. maculicauda* and *ruficauda* they measure only 1 in length, the medial rectrices being four times as long or nearly so. In the genus *Jacamaralcyon* they are still more diminutive. In *Jacamerops*, on the other hand, they are of more normal dimensions, measuring 2, while the medial are about 5 in length.

So little has been written, especially in English, on the habits of exotic birds, that I am tempted to give here a translation of the remarks made by an observer of this genus in its native country. The Prince Maximilian of Neuwied, in his most excellent but too little studied work "Beiträge zur Naturgeschicte von Brasilien," vol. iv. p. 437, writes nearly as follows:—

"These birds differ more in habits than in structure from the Kingfishers; and in this respect as in many others, seem to have more connection with the Humming Birds. Like them they have a soft, loose, splendid gold-glancing feathering; a long straight sharp-pointed beak; small, weak delicate feet; and a long strong feathered tail. They differ chiefly in the formation of the tongue, bill, and feet, and their shortness of wing; from which it may be understood that the Jacamars stand somewhere between the Kingfishers and *Colibri*."

After describing accurately the only species met with, and stating that the native name for this bird signifies "*The Great Humming Bird*"—as in Guiana they are called "*Les Colibris des Grands Bois*"—the Prince continues—

"They live solitary and still, in the damp woods and shady brakes, sitting generally on low twigs over the water, flying quick but not far, phlegmatic and difficult to be roused. Their voice is not a pleasing short song as Buffon says; but a loud, clear, oft repeated sound. They are on the look out during the whole day for insects, of which I have found the remains in their stomachs. The Jacamars place their nest, like the Kingfishers, in a round hole in a bank, but I have never been able to find one."

Four other genera besides *Galbula* have been established in this family.

(2.) *Jacamaralcyon*, Cuv. 1829; Cauax, Cab. 1847.
J. tridactyla.

(3.) *Galbalcyrhynchus*, Des Murs, 1845; Jacamaralcyonides, Des Murs, 1849.
G. leucotis.

(4.) *Jacamerops*, Cuv. 1817; Lanprotila, Sw. 1837.
J. grandis.

(5.) *Galbuloides*, Des Murs, 1851.
G. boersi.

(2.) Of *Jacamaralcyon* I have seen only the common type species. Does any one know Swainson's *G. lugubris?* He expressly states, An. in Men. p. 329, that it has only three toes. It would therefore form a second species of this genus. The example so marked in the British Museum is my *G. inornata*. Cut off its fourth toe and it would fit Swainson's description tolerably well.

(3.) *Galbalcyrhynchus*, from Santa Fé di Bogota, figured Iconographie Ornithologique, pl. 17, is rare. There is one example in the British Museum.

(4.) M. Deville has described a second species of *Jacamerops*, under the specific name *isidorei* in the Rev. de Zool. 1849, p. 55. M. Des Murs, however, in the newly published Encyclopedie d'Hist. Nat., states his opinion, that this is merely a pale coloured female of the ordinary *grandis*. I have seen the type specimen in the Museum of the Jardin des Plantes, and though I did not pay any very great attention to it at that time, my impression certainly was, that it was a good species.

(5.) Does Le Vaillant's "Le Grand Jacamar," *Galbula boersi*, Ranzani, exist any where? I have always regarded it as fabulous; but as M. Des Murs has lately made a new genus for its sole reception, his ideas upon this subject are probably somewhat different. Le Vaillant states it to be from the Moluccas!

IX.—ON THE BIRDS FROM YUCATAN.

DESCRIBED BY DR. CABOT IN THE JOURNAL OF THE BOSTON NATURAL HISTORY SOCIETY.

Dr. Cabot has written several articles in the above mentioned periodical on the birds collected by himself in Yucatan. Upon reading the descriptions of his new species, I was soon aware that many, if not all of them, had been previously named. Having however some doubt on one or two points, I communicated with Mr. John Cassin, the corresponding secretary of the Academy of Natural Sciences of Philadelphia on the subject. He has been so obliging as to send me the following result of an "examination by himself and Dr. Wilson, of the descriptions of Dr. Cabot, with such aid as his recollection of Dr. Cabot's specimens afforded:"—

Vol. iv. p. 462 (1844) of the Journal of the Boston Natural History Society. *Falco percontator*, Cabot = *Micrastur brachypterus*, Temm.

Vol. iv. p. 464. *Corvus vociferus*, Cabot. I have heretofore taken this to be the young of *Psilorhinus morio*, Licht., but it exactly agrees with *P. chilensis*, Bp. Consp. Av. p. 381. I write now with allusion to a specimen from Dr. Cabot now in our Academy collection, not specially recollecting others which I have seen in Boston. I believe it to be synonymous with *P. morio*.

Vol. iv. p. 465. *Oriolus musicus*, Cabot = *Icterus mesomelas*, Wag.

Vol. iv. p. 467. *Momotus yucatensis*, Cabot = *Crypticus superciliaris*, Sandbach.

Vol. v. p. 90. *Pyrrhula raptor*, Cabot = *Saltator atriceps*, Lesson.

Vol. v. p. 91. *Picus dubius*, Cabot = *Centurus santacrusi*, Bp.

Vol. v. p. 92. *Picus parvus*, Cabot = *P. scalaris*, Wagler.

Vol. v. p. 92. *Picus yucatensis* = *Picus rubiginosus*, Sw., *Chloronerpes rubiginosa* (Sw.), G. R. Gray.

Vol. v. p. 416. *Pyranga roseogularis*, Cabot. There is no bird in the collection of the Academy which is this species, and it may stand good. I am acquainted with no description which is to be suspected, but have no recollection of Dr. Cabot's specimens.

The first six names are therefore synonyms, belonging to previously described species, but I agree with Mr. Cassin in thinking that the *Pyranga* may be really new.

London, May 26th.

ILLUSTRATIONS OF INDIAN ORNITHOLOGY

By E. BLYTH,

Curator of the Museum of Asiatic Society of Calcutta.

IV.—PHYLLORNIS JERDONI, Blyth.

Plate XCI.

For the interesting nest and eggs of *Phyllornis jerdoni*, Blyth, we are indebted to our kind friend and correspondent, E. L. Layard, Esq., magistrate of the district of Point Pedro (the northernmost extremity of Ceylon), in which district we understand it to have been procured. A large groove along the under side of the nest indicates it to have been placed upon a branch, probably as represented in our figure. The general form is somewhat flat, and it is composed of very soft materials, chiefly dry grass and silky vegetable fibres, rather compactly interwoven with some pieces of dead leaf and bark on the outside, over which a good deal of spider's web has been worked. It contains four eggs, white, abruptly speckled over with dark bister, mingled with some ashy spots.

This species of *Phyllornis* (figured by Mr. Jerdon in the 43d Plate of his Illustrations of Indian Ornithology) inhabits all the peninsula of India and Ceylon. We found it plentiful in the jungles of the Midnapur district (west of Lower Bengal), and think we have also seen it from the Rajmore Hills in Bengal, but certainly never from Upper India. Its only congener in southern India and in Ceylon is the *Phyllornis malabaricus* (or *aurifrons* of Jerdon's Catalogue). The latter we did not observe in the Midnapur district; but a few of *Phyllornis aurifrons*, a species which extends thence over Central and Upper India to the Sub-Himalayan territories, and eastward into Asam, Sylhet, and Arakan. The south-eastern portions of the Sub-Himalayan ranges, with the provinces of Asam, Munipur, Sylhet, and Arakan, likewise contain the *Phyllornis hardwickii;* and in Arakan we find abundantly the *Phyllornis cochinchinensis* (*moluccensis* of Gray) extending thence southward through the Burmese countries over the Malayan peninsula and archipelago. These five species constitute a particular sub-type of the genus with meliphagous bill, and the bend of the wing ultra-marine blue. Two others inhabit the Malay countries, which have the bend of the wing green like the rest of the plumage, and a bill resembling that of *Iora* (a nearly affined genus which has precisely the same geographical distribution). These are *Phyllornis sonneratii* (Jardine and Selby, *mulleri* of Temminck, and the young of which is *Chloropus gampsorhynchus*, Jardine and Selby, *Chloropsis zosterops*, Vigors, and *Turdus viridis*, Horsfield), and *Phyllornis cyanophagon*, Temminck (the young of which is *Chloropus mysticalis*, Swainson). No others appear to be known, though such may exist in the easternmost parts of southern Asia.

Mr. Jerdon states of *Phyllornis jerdoni*—"I have seen a nest and eggs of this species in possession of S. N. Ward, Esq. It is a neat but slight cup-shaped nest, composed chiefly of fine grass, and was placed near the extremity of a branch, some of the nearest leaves being, it was said, brought down and loosely surrounding it. It contained two eggs, white, with a few claret-coloured blotches. Its nest and eggs, I may remark," continues Mr. Jerdon, "show an analogy with those of the Orioles."*

---

* *Phyllornis* is now placed among the Tenuirostres, near to the Meliphaginæ; many of the nests of which show a great deal of weaving in their structure, and are often suspended near the extremity of a branch, supported by the leaves being woven into the structure of the nest. Is not *Ch. jerdoni*, Jerd. Illust. Ind. Orn. syn. with *Ch. malabaricus* (Gmel.)?

V.—LEUCOCERCA.

PLATE XCII.

THE nest of *Rhipidura albicapa*, Gould, is figured by that naturalist in his "Birds of Australia." We now represent the nest and eggs of the affined *Leucocerca fuscoventris* (Franklin), the common species of Lower Bengal, but replaced in most other parts of India and in Ceylon by *L. albofrontata* (Franklin),* and in the Nilgiris by *L. pectoralis*, Jerdon. Another near affine inhabits the Malayan peninsula and archipelago, the *L. javanica* (Sparrman). These birds differ in several respects from true *Rhipidura*, of which also however, we find an Indian representative in *Rh. hypoxantha*, Blyth, inhabiting the south-eastern Sub-Himalayan regions. *L. albofrontata* is figured in the second plate of Mr. Jerdon's "Illustrations of Indian Ornithology."

The *Leucocercæ* are not Flycatchers in the common acceptation of that term among ornithologists, for they do not watch for their insect prey, and then dart after it and seize it on the wing, returning to their perch to watch again; but they are restless little birds, constantly in motion among the foliage in groves, bamboo jungle and the like, hopping from twig to twig, with broadly expanded wings and tail, and quick jerking movements, every aspect of view in turn presented to the spectator, and they are seen generally if not always in pairs—the male frequently delivering a series of sweet soft ringing notes—"a tinkling sort of song"—as we have elsewhere described it. The nest of *L. fuscoventris* is affixed sometimes to a small stem of bamboo, as represented by our figure in the back ground, and sometimes placed as represented in our principal figure. It is constructed of and lined with fine grass stems, bound round on the outside with some flat leaves of grass, which are more or less completely covered over with spider's web; and there is always a quantity of material hanging from the bottom, so as to produce the appearance of a funnel. This peculiarity is much more strongly marked in Mr. Gould's figure of the nest of *Rhipidura albiscapa;* but he says of that species, that it has invariably but two eggs, whereas the nest of *L. fuscoventris* here figured contained three. These much resemble the eggs of *Sylvia curruca* (*Curruca garrula*, Brisson), being of a sullied white with few scattered spots, except those forming a broad zone towards the large end, and the colour of which are greenish olive brown, mingled with some dark ashy spots.

---

* *L. compressirostris*, Blyth, from Ceylon, differs only in having the beak much more compressed, but it remains to ascertain if this be a permanent distinction.

ORNITHOLOGICAL OBSERVATIONS

BY PHILIP LUTLEY SCLATER.

X.—ON CERTAIN SPECIES OF *DACNIS.*

PLATE XCIII.

SINCE writing the synopsis of the genus *Dacnis*, pp. 105–110 of last year's "Contributions," I have obtained specimens of M.M. de Lafresnaye and d'Orbigny's *Dacnis analis*. Upon comparing these with Prince Maximilian of Neuwied's description of his *Sylvia speciosa*, Beitr. z. Nat. iii. 706, and the figure given of the same bird in the Planches Coloriées of Temminck, I cannot doubt their identity, notwithstanding the thicker and more sylvine form of the beak in Temminck's figure. This species will therefore now stand as follows:—

6. DACNIS SPECIOSA, Pr. MAX.

Sylvia speciosa, *Pr. Max.* Beitr. z. Nat. iii. 708.—— Dacnis analis, *de Lafr.* and *d'Orb.* Mag. de Zool. 1837, p. 21.—— Figd. *Temm.* Pl. Col. 293, Fig. 2.

D. plumbeo-cœrulea; remigibus rectricibusque nigris plumbeo-cœruleo limbatis; subtùs plumbeo-cinerea; ventre medio et remigum basi subtùs albis; crisso toto rufo-cinnamomeo.

Long. tota, $\dot{4}.\ddot{0}$; alæ, $\dot{2}.\ddot{2}$.

Habitat, Cayenne; Rio de Janeiro (Pr. Max.); Chiquitos, Bolivia (d'Orb.)

I have also procured several examples of M. Cabanis' *Dacnis plumbea*, which will form a seventh species.

7. DACNIS PLUMBEA (LATH.), CAB.

Sylvia plumbea, *Lath.* Ind. Orn. p. 558.——Sylvia bicolor, *Vieill.* Ois. de l'Am. Sept. pl. 90. bis?——Sylvia cœrulescens, *Max.* Beitr. iii. 713.——Dacnis plumbea, Faun. Per. pp. 37, 236.

D. plumbeo-cœrulea; remigibus rectricibusque nigricantibus plumbeo-cœruleo marginatis, primariorum pogonio externo albicantibus; subtùs cinereo-albida rufescente mixta, ventre medio crissoque rufescentioribus.

Long. tota, 4 . 2½; alæ, 2 . 3½.

Habitat, Trinidad (Ld. Harris); Cayenne; E. Brazil (Max.); Peru (Tsch.)

There is an eighth species, as yet undescribed, in the collection of the Baron de Lafresnaye.

The second figure given in the accompanying plate is of *Dacnis cœrebicolor*, Sclater, Orn. Cont. 1851, p. 106. The specimens there mentioned as in Mr. Warwick's collection are now in the Philadelphian Museum.

I find that the specific appellation *angelica*, used by me for the third species of *Dacnis*, p. 107, was originally published by M. de Filippi in the Atti della 6ta Riunione degli Scienziati Italiani, and there applied to the New Grenadian variety of that species which I described as being of brighter colouring. In the Catalogue* of the Milan Museum, M. de Philippi admits that the bird to which this name is applied is merely a variety of the ordinary species, which he calls "*cayana*." Since however it is not the true "*cayana*" of Linnæus, we must nevertheless use the name "*angelica*" (as adopted in my synopsis) for its specific title, such being the earliest that can be rightly employed.

---

* This paper appears to be very little known. Mr. Edward Wilson, who is collecting zoological works of every description for the Philadelphian Academy, has allowed me to inspect his copy, which is the only one I believe that has ever been in England. There is no title-page; but it is headed "Museum Mediolanense, No. 1. Animalia Vertebrata Classis II$^{da.}$ Aves." In an appendix which is signed "Ph. de Filippi Mense Martii, 1847," the following new species of birds are described—*Salicaria italica*, De Fil.; *Formicivora genei*, De Fil.; *Garrulax vittatus*, De Fil.; *Ceblepyris luctuosus*, De Fil.; *Graucalus torquatus*, De Fil.; *Pachyrhamphus dimidiatus*, De Fil.; *Lanius (Collurio) jeracopis*, De Fil.; *Thamnophilus janii*, De Fil.; and *Sturnella bellicosa*, De Fil.

MONOGRAPH

OF

THE OWLS—*STRIGIDÆ*

By Dr. T. T. KAUP.

The First Subfamily—Day Owls, *Surninæ*, Kp.

I. Glaucidium II. Nyctale. III. Athene. IV. Surnia. V. Ieraglaux.

They have the most perfect brain, the handsomest and roundest skull, high-rounded front and small pneumacity. No genus has feather-horns, or a pectinated claw on the middle toe like *Strix*.

I. Genus GLAUCIDIUM, Boie.

The smallest Owls of the whole family, with short wings and long tail. The first quill shorter than the tenth.

a. Subgenus Glaucidium, Boie.—They have the nostrils in the middle of the pea-shaped cere, and a spotted or uniform plumage. They are found in South America.

1. *Gl. pumilum*, Kp.; *Str. pumila*, Temm. Pl. Col. 39; *ferox*, Vieill.; *minutissima*, Wied.—Tail 53 mm. long, with 3-4 white spots only, not reaching to the shafts.

2. *Gl. nanum*, Boie.; *Str. nana*, King, Zool. Journ. iii. p. 426; *Athene leucolaima*, Homb. et Jacq. Voy. pl. iv. p. 2, 3.—Tail 63-70 mm. long, with 8–10 rufous cross bands, reaching to the shaft. Southern America, Straits of Magellan, Peru.

3. *Gl. infuscatum*, Kp.; *Str. infuscata*, Temm.; *Olim. passerinoides*, Temm.; *Gl. gnoma*, Wglr.; *Str. eluta*, Licht. (not *elata*).—Tail 61–66 mm. long, black with 5–6 pairs of white spots not reaching to the shaft. Brazil, Mexico, California.

4. *Gl. ferrugineum*, Kp.—The largest; rufous, wings 105–111; tail 76 mm. long. Brazil.

b. Subgenus Microglaux, Kp.—The nostrils on the margin of the pea-shaped cere, plumage spotted.

5. *Gl. havanense*, Kp.; *Strix havanensis*, Licht.—Size of *Gl. infuscatum*; wings 98-99; tail 65 mm. long, with six narrow bars of rusty yellow colour.

6. *Gl. perlatum*, Kp.; *Strix perlata*, Vieill.; *occipitalis*, Temm. Pl. Col. 34; Vaill. O. d'Afr. t. 284.—Size of *Surnia passerina*; wings 108; tail 78 mm. long; diameter of the eye 10 mm. Whole of Africa.

7. *Gl. licua*, Kp.; *Strix licua*, Licht.—Very near to *Gl. perlatum*, but with darker colouring, more brownish on the upper parts; the white spots on the head and neck broader; the shaft-stripes on the sides and belly broader and blackish; the tail with 5–6 pairs of white spots, not reaching to the shaft; tarsus white with black spots; eye not so large as in *perlatum*. The smaller male has on the under parts broader stripes, and only five pairs of spots on the tail. Head 39–41; wings 100–102; tail 68–70 mm. long. Caffraria.

c. Subgenus Tænioptynx.—Nostrils like the subgenus *Glaucidium*, with shorter wings and the smaller inner webs of the quills emarginated more towards the shaft; plumage more developed; banded

8. *Gl. brodiei*, Kp.; *Noctua brodiei*, Burt. Proc. Zool. Soc. 1835, p. 152; *Noctua tubiger*, Hodgson.—The whole plumage with rufous yellow or whitish bands. Asia, Nepal.

II. Genus NYCTALE, Brehm.

Very large (? assymmetric) ear orifice, with a developed operculum and complete veil. They are spread over the northern parts of Europe and America.

N. acadica, Bp.; *Strix acadica*, Gmel.; *acadiensis*, Lath.; *passerina*, Wils. pl. xxxiv. 1.—Wings 131; tail 70 mm. long. Northern part of America.

N. funerea, Bp.; *Str. funerea*, Linn. (Diagnosis not the description); *passerina*, Pall.; *tengmalmi*, Gmel.; *dasypus*, Bechst.—

Wings 163; tail 100–103 mm. long. *Nyctale richardsoni*, Bp. is not different, it is only a little darker, and this is the reason that the white spots are more distinct. The character of Prince Bonaparte, " longer tail," is not correct, as I have seen the original specimen of the Zoological Society.

III. GENUS ATHENE, BOIE.

The nostrils on the margin of the swollen cere; ear orifice small; wings moderately long, with short wing-end* reaching nearly to the end of the short tail; toes naked, with some bristle-feathers; the emarginations on the maxilla not so distinct as in *Glaucidium*. They are spread over Europe, Asia, and Africa.

a. Subgenus CEPHALOPTYNX, Kp.—The first quill shorter than the tenth; plumage spotted not banded.

1. *Athene punctulata*, G. Gray; *Noctua punctulata*, Quoy and Gaim. Astral. T. 1 fig. 1.—Larger than *Ath. noctua*, with larger head and bill; front, a stripe over the eye, chin, belly, tarsus and inner wing-covers, pure white. Celebes.

b. Subgenus ATHENE, Boie.—The first quill as long as the sixth or seventh; quills feebly emarginated; tarsus not very high; plumage spotted; ear orifice asymmetric.

2. *Ath. meridionalis*, Kp.; *Noctua meridionalis*, Risso. Hist. Nat. de l'Eur. Mer. iii. p. 32; *Noctua glaux*, Sav.; *passerina*, Rüpp.; *Surnia noctua*, Gr. r. d. Mühle.—Toes with bristly feathers, the lower parts with rufous shaft-stripes; tail with three yellowish dark marginated cross bands. Southern parts of Europe, northern parts of Africa.

3. *Ath. noctua*, Bp.; *Strix noctua*, Retz.; *passerina*, Lath., Temm.; Naum.; Gould, pl. 48.—Toes with bristly feathers, which have some radii on each side of the root; tail with four rufous yellow cross bands. Europe.

4. *Ath. brama*, G. Gray; *Str. brama*, Temm. pl. col. 68; *indica* Frank.; *tarayensis*, Hodgs.—Toes with bristly feathers; tail with

---

* I call *wing-end* that part of the end of the hand-wings which is not covered by the arm-wings.

4–5 distinct small white cross bands; lower parts with arrow-like black cross bands. Asia and its Archipelago.

c. Subgenus PHOLEOPTYNX.—Middle toe without the nail half as long as the long slender tarsus; wings long; the first quill shorter than the fourth, the first and second distinctly, third and fourth indistinctly emarginated.

5. *Ath. cunicularia*, Bp.—Rufous grey; tarsus 1¾ inches long, feathered to the toes. South America, San Paulo, &c.

e. Subgenus TÆNIOGLAUX.—The first quill shorter than the tenth; the plumage barred; size of *Ath. noctua*. They are spread over Asia and Africa.

6. *Ath. castaneoptera*, Blyth; *Strix castaneoptera*, Horsf.; *spadicea*, Reinw.; Temm. Pl. Col. 98.—The head rufous, black banded; shoulder-covers uniform brown with large white brown marginated spots on the margins; tail with six rufous yellow bands.

7. *Ath. erythroptera*, Blyth; *Strix erythroptera*, Gould; *perlineata*, Hodgs.; *radiata*, Tsch.; *undulata*, Blyth.—The head blackish, with rufous yellow or whitish bands; shoulder-covers with very small bands; margins of the wings with larger white spots; tail black, with 9–10 irregular small bands.

8. *Ath. cuculoides*, Blyth; *Noct. cuculoides*, Vig.; *auribarbis*, Hodgs., Gould, Cent. Him. B. t. 4.—Wing entirely brownish; tail with seven cross bands.

9. *Ath. capensis*, A. Smith, Ill. S. Afr. Zool. t. 33.—Tail with fourteen small rufous bands.

IV. Genus SURNIA, Dum.

Nostrils on the margin of the rudimentary cere; ear orifice small, without operculum; bill curved from the cere and covered with feathers; toes more or less thickly feathered; shafts of the quills strong and stiff.

a. Subgenus MICROPTYNX; *Glaucidium* (Pars), Boie. First shorter than the tenth; 1–4 wing-feathers emarginated; toes very slender, covered with feathers and no bristle-feathers. It represents in its genus the genus *Glaucidium*.

1. *S. passerina*, Kp.; *Str. passerina*, Linn.; *pusilla*, Daud.; *acadica*, Temm.; Vaill. t. 46, Gould t. 50.—Tail 56–62 mm. long, with five arrow-like cross bands reaching to the shaft. Northern and eastern parts of Europe and Asia.

b. Subgenus NYCTEA, Steph.— The long wings cover two-thirds of the tail, which is as long as the body; the first quill shorter than the fourth; 1–4th with broad inner-webs and emarginated to the end; ear-orifice larger than the diameter of the eye (perhaps asymmetric).

2. *S. nyctea*, Selby; *Str. nyctea*, Linn.; *candida*, Lath.; *nivea*, Thunb.; Daud.; Gould, t. 45.—Bill and nails black; total plumage in advanced age pure white, in youth black spotted; size of *Bubo maximus* male. Northern parts of Europe, Asia, and America.

c. Subgenus SURNIA, Dum. — The first quill as long as the seventh, 1–3d quills distinctly emarginated; ear-orifice less than the diameter of the eye; tail longer than the body.

3. *S. ulula*, Bp.; *Str. ulula*, Linn.; *Faun. suec.* 78; *hudsonia*, Gmel.; *funerea*, Lath; Gould, t. 45; Pl. Enl. 463; Edw. t. 62; Wils. t. 50, 6; Aud. 378.—A broad black vertical stripe from the ear to the neck. It inhabits the same countries as the *S. nyctea*, and strays very rarely to England and Germany.

V. GENUS IERAGLAUX, KP.

ATHENE, *Auct. Nov.*

The nostrils on the margin of a long strongly developed cere, which covers the basal half of the bill; wings long with long wing-end; toes long, thinly covered with bristle feathers; in size middling or large.

a. Subgenus CEPHALOGLAUX. — With large head, and strong curved bill; the first quill shorter than the tenth; toes shorter than the tarsus; tarsus covered with strong shafted feathers; toes with strong bristles.

1. *I. superciliaris*; *Str. superciliaris*, Vieill.; *sonnerati*, Temm., Pl. Col. 21.—Wings and tail-feathers rusty red, with white traces

on the margin of the inner webs only, and some more yellowish on the outer webs; breast and belly white, with rather broad brown bars. Diagnosis taken from the specimen in the Paris Museum. Asia.

I. jacquinoti; Ath. jacquinoti, Homb. and Jacq. Voy. au Pole Sud. t. iii. 2.—Chin white with a reddish-brown black banded collar; belly yellowish-white. Solomon Island. Specimen in the Paris Museum.

3. *I. variegatus*; *Noctua variegata*, Quoy and Gaim., Voy. Astral. Ois. t. 1, 2.—Wings 194–198; tail 114–120 mm. long; tail with ten light narrow bands; breast and belly with three rusty brownish bands on each feather. New Ireland.

b. Subgenus, SPILOGLAUX.—The first quill longer than the tenth; the first to the fifth emarginated on the inner web; wing with pretty long wing-end; toes shorter than the tarsus; bill more curved and not so much projected as in the other subgenera. It is certain that they are more sleepy than the others. Mostly inhabitants of New Holland.

4. *I. bubuk*; *Str. boobook*, Lath.; *Athene ocellata*, Homb. and Jacq. Voy. t. 3, fig. 2.—Head 55–58; wing 217–241; tail 140–150 mm. long.

5. *I. fuscus; Strix fusca*, Vieill; *maugei*, Temm. Pl. Col.—Head 51; wing 212; tail 117; tail with nine whitish bands. Porto Rico.

6. *I. maculatus; Noctua maculata*, Vig. and Horsf.; Gould Austr. Birds, tom. i.—Head 58; tail 120 mm. long; tail with six whitish bands.

7. *I. marmoratus*; *Athene marmorata*, Gould Austr. birds, tom. i.—The occiput, neck, margin of the shoulder-covers, and the inferior middle of the small feathers of the wings white, on the outer web spotted; the total colouring on the upper parts light ash brown.

8. *I. novæ seelandiæ; Strix novæ seelandiæ*, Quoy and Gaim. Astral.—Upper parts nearly black; wings 204; tail 117–129 mm. long.

c. Subgenus SCELOGLAUX.—With more projected bill; first to fifth quills emarginated on the inner web; the first a little longer than the tenth; tarsus very high, twice as long as the middle toe without claw; outer toe half as long as the middle; toes with the bristles developed; plumage like an *Otus*.

9. *I. albifacies; Athene albifacies*, G. Gray, Er. and Terr. Birds, pl. 1.* — Size of the *Otus vulgaris*. New Zealand.

d. Subgenus CTENOGLAUX; *Ninox*, Hodgs. — Head extremely small; margin of the toes with small warts and bristles like a comb; first quill longer than the tenth; first to fourth emarginated on the inner-web. Spread over Asia.

10. *I. scutellatus; Strix scutellatus*, Raffl. — Bill black with yellow culmen $8\frac{1}{2}$–$10\frac{1}{2}$ inches long; tail like a sparrow-hawk, with 3-6 light cross bands.

e. Subgenus IERAGLAUX — The first quill longer than the tenth; first to fifth quills very distinctly, sixth very indistinctly emarginated; tarsus very strong; toes very long; middle toe without claw, as long as the tarsus.

11. *I. connivens; Falco connivens*, Lath. Ind. Suppl. p. 12; *athene*, G. Gray; Gould, tom. i. — Size of *Surnia aluco*; tarsus like the middle toe, about 43 mm. long.

12. *I. strenuus; Athene strenua*, Gould, Austr. Birds, tom. i. — Tarsus like the middle toe without claw, 58 mm. long.

13. *I. rufus; Athene rufa*, Gould, Austr. Birds, tom. i. — Very much resembles the last, but Mr. Gould distinguished it by the reddish lower parts and the dark reddish cross bands, which are nearer together and more numerous. The only specimen in Europe was in the collection of Mr. Gould, which he sold to Mr. Wilson of Philadelphia.

14. *I. humeralis; Athene humeralis*, Homb. and Jacq. Voy. au Pole Sud. Ois. t. iv. 1. — With black face, white chin, and banded over and over with narrow bands. Oceania.

THE SECOND SUBFAMILY — NIGHT OWLS, *Striginæ*, Kp.

WE see in this subfamily a greater ear orifice, with large operculum, feather-horns, a very pneumatic skull enlarged on the occiput. Its plumage is softer and darker coloured; the inner webs of the quills broader and covered with a silk-like very soft felt.

---

* Plate not published, 1st August, 1852.

This subfamily is more nocturnal, and has a noiseless flight. The small species live on insects, small birds and mammalia, but the larger ones confine themselves to mammalia and birds.

I. GENUS SCOPS, SAV.

Very small Owls with an ear orifice not so large as the diameter of the eye; feather-horns; round handsome skull. They prefer warm to cold countries, but we find the species spread over the whole world. The first subgenus, which should have the first quill shorter than the tenth, is not yet discovered.*

b. Subgenus SCOPS.—Wings long and pointed; first quill distinctly emarginated at the end; the second and third not so distinctly; the first longer than the tenth; third or fourth the longest; tarsus feathered; toes always naked and scaled. We find the species in the Old World.

S. ephialtes, Sav.; *Str. scops*, Linn.; Pl. Enl. 436; Gould, Eur. t. 41.—The wings 141; the tail 62 mm. long; first quill as long as the fifth. Southern and Western Parts of Europe, Northern Africa.

2. *S. pennata*, Hodgs.—Very near to *S. ephialtes*. It shows more rusty red on the head, has shorter wings, with finer and more elegant markings. India.

3. *S. senegalensis*, Sw., Birds of Western Africa, p. 127.—Also very near to *S. ephialtes*, but has a stronger bill, shorter wings, and coarser markings; the feathers on the hind ear-margin not so distinct, margined with blackish; and the bars on the inner side of the wing very distinct; the first quill as long as the seventh.

4. *S. latipennis; Str. latipennis*, Licht.—Also very near to *S. ephiales*, but with coarser markings, and the webs on the wings and tail are broader. Caffraria.

5. *S. longipennis; Str. longipennis*, Licht.; *Str. striolata*, Homb. and Ehrenb.—Still nearer to *S. ephialtes*, but also with coarser markings; the wings are longer, 150 mm. Northern Africa.

I consider all these species, so very nearly connected with *S. ephialtes*, as to be only subspecies of one and the same type.

---

* My subgenus *Pisorhina (Scops manadensis)* is a nominal subgenus, but the character, nostrils in the middle of the cere, given by Qouy and Gaimard, is wrong.

6. *S. leucopsis; Athene leucopsis*, Hartl. — The wings on the inner side uniform blackish without bands; first quill as long as the ninth. A very distinct and handsome species from the Island of St. Thomas in Western Africa.

c. Subgenus ACNEMIS. — The first quill longer than the tenth; tarsus naked and scaled; toes completely naked and scaled.

7. *S. gymnopodus*, G. Gray. — In size and colour it is like *S. ephialtes*, but has shorter wings and tarsus; the wings on the inner side next the root, with three small dirty whitish-yellow bars not reaching to the shaft, and directed from the tail to the head. India.

d. Subgenus PTILOPSIS; *Ephialtes*, Bonap.—The first quill very long, emarginated near the end, shorter than the second and third; bill projected and covered with very long bristle-feathers; toes with thin bristle-feathers.

8. *S. leucotis*, Swains.; *Str. leucotes*, Temm., Pl. Col. 16.—Whole face, feathers of the lorum and front pure white. This species has some analogies with *Bubo lacteus*. Africa.

If we may draw conclusions by analogies, we may expect some time or other to find two species in Asia which will represent *Bubo orientalis* and *coromander*.

e. Subgenus MEGASCOPS. — First quill as long as the seventh or tenth; 1–4th emarginated; tarsus feathered; toes mostly naked.

9. *S. flammeola; Str flammeola*, Licht. (Berl. Mus.) — Wings 120 130; tail 56-66 mm. long. The smallest of the Night Owls. Mexico.

10. *S. trichopsis*, Wagl. Isis. 1832, p. 276. — Toes with bristle-feathers like *Athene noctua*. Mexico.

11. *S. rutilus*, Puch. Archiv. du Mus. d'Hist. Nat. iv. p. 326, tab. xxii.; Revue et Mag. de Zool. 1849, p. 29. — Toes naked, and also the scaled hind part of the slender tarsus; total plumage rusty red; occiput and neck without collars. Madagascar.

The following species from America are so intimately connected, that we discover the distinct character of each only by a close scrutiny. It is certain, that they are only subspecies from one and the same type. The oldest known is

12. *S. asio*, G. Gray; *Str. asio*, Linn.; *nævia*, Gmel.; *albifrons*, Lath.; *lineatus et striatus*, Vieill. — General plumage greyish or rusty red; toes feathered; wings 160; tail 76 mm. long. N. America.

13. *S. braziliensis*, Bp.; *braziliana*, Gmel.; *choliba*, Vieill.; *crucigera et undulata*, Spix.; *decussata*, Licht.; *Sc. portoricensis*, Less.; Spix. 9 and 10; O des Murs. pl. — The cape very dark brown and rusty-red, banded and spotted; toes naked; wings 155; tail 85 mm. long. Brazil.

14. *S. atricapillus*, Cuv.; *Str. atricapilla*, Natterer, Temm. Pl. Col. 145.—With crown of the head black, and pointed feather-horns; wings 177; tail 87 mm. long. Brazil.

Like these last species or subspecies, the Indian species are also so intimately connected, that it is very difficult to make out the distinctions.

15. *S. lempiji*, Bp.; *Str. lempiji*, Horsf.; *Str. noctula*, Reinw., Pl. Col. 99; *Sc. javanicus*, Less.—A little stronger and larger, than *S. ephialtes*, two neck bands of rusty-yellow; wings 137–145; tail 69-73 mm. long.

16. *S. semitorques*, Bp.; *Otus semitorques*, Schl. Fauna, Jap. t. 8. —It is larger, and the difference consists in the feathers on the toes, reaching to the scales of the claws; wings 179; middle toe without claw, 21 mm. long. It differs like *asio* from *braziliensis* in the feathered toes, and also like *asio*, lives in a colder climate; *S. braziliensis* and *S. lempiji* inhabit the Torrid Zone.

17. *S. manadensis*, Quoy and Gaim., Astr. pl. ii. 2.—Very near to *lempiji* and of the same size, but wants the two neck collars; wings 142–148; tail 67–70 mm. long. Celebes.

II. GENUS OTUS, CUV.

THE ear orifice like the gill of a fish, reaching from the top of the head to the lower jaws; they are asymmetric; very clear veil, and more or less distinct feather-horns.

a. Subgenus PSEUDOSCOPS.—With smaller ear orifice without operculum; larger and projected bill; wing short; first quill as long as the tenth; 1-4th quills feebly emarginated on the inner web; toes completely naked and scaled like the greatest part of the genus *Scops*.

1. *O. grammicus*, Kp.; *Ephialtes grammicus*, Gosse, B. of Jamaica, t. 19. — The tail 118 mm. long, with ten small bands on a painted ground. Domingo, Cuba.

2. *O. macrurus*, Kp. — The brown tail 148 mm. long, with five small whitish bands and ends. Mexico, Museum of Wurzburg.

b. Subgenus OTUS. — With small curved bill and long wings; the first quill not so long as the fourth, distinctly emarginated near the end; the second not so distinct; the pectinated margin of the first quill very much developed; toes mostly covered with feathers to the scales next the claws. This subgenus is connected with the fourth subgenus, *Brachyotus*, Gould. It appears that this subgenus contains species which are more night birds than the other subgenera of *Otus*.

The following *O. vulgaris*, *americanus*, and *zonurus*, are formed upon one and the same type. *Otus stygius* is the other type.

3. *O. stygius*, G. Gray, Puch. Arch. du Mus. d'Hist. Nat. p. 336, pl. xxiv.; *Nyctalops stygius*, Wagl. Isis. 1832; *Otus seguapu*, Orb. Voy. Cuba, t. 2; *Strix melanopis*, Licht. Berl. Mus. — Head and the upper parts dark brown; toes naked like the species of the subgenus *Pseudoscops*, the largest of the whole genus. A handsome very distinct species. St. Paul, Cuba.

O. vulgaris, Flem.; *Strix otus*, Linn.; Naum. t. 45; Gould, t. 39. —The wings 275–279 mm. long; the wings with 4–7; the tail with 6-9 cross bands. Europe, India.

O. americanus, Bp.; *Str. americana*, Gmel.; *Otus wilsoni*, Less.; Wilson, 51; Aud. 383. — The inner wings with 5–7 broad bands; the under side of the tail with nine line like cross bands; wings 290 mm. long. It inhabits the northern parts of America and Mexico, and may possibly be found still farther south.

O. zonurus, G. Gray. — The under part of the wings and tail with twelve cross bands; the plumage is darker; black predominates on the upper and lower parts.

c. Subgenus RHINOPTYNX.—Bill long and projected; wings short and obtuse; the first quill longer than the 6–9; the first and second distinctly emarginated; toes feathered.

O. mexicanus, Cuv.; *Str. mexicana*, Gmel.; *longirostris*, Spix.: *maculosa*, Wied.; *Bubo clamator*, Vieill.; Vieill. Ois. d'Am. Sept. t. 20; Spix. Av. Braz. 9a; Aud. 412.—With white face and fine zigzag lines on the superior parts.

O. madagascariensis, Smith; A. Smith Catal. of S. Afr. Mus.; *Bubo madagascariensis*, Puch. Arch. du Mus. t. iv. pl. 23.—With dark face; tarsus 37 mm. long. It is wrong to bring this species into the genus *Bubo;* it shows only analogies but no affinities.

d. Subgenus BRACHYOTUS,* Gould.—Head smaller, with small curved bill; long wings; the first quill shorter than the second, and nearly as long as the fourth, clearly emarginated near the end; the second not so distinct; the pectinated margin of the first quill not so developed; toes covered with feathers to the scales of the claws. The type of this small subgenus differs in its manner of life very much; it lives in meadows, fields, and amongst reeds, and is more a Day Owl than a Night Owl. In the northern parts of Europe it makes its nest among reeds.

O. brachyotus, Boie; *Strix brachyotus*, Gmel.; Naum.; *Ulula*, Gmel. &c. &c.; Gould, t. 40; Pl. Enl. 438; Nozemann, t. 33, 34; Frisch. t. 98.—Black around the eye; wing 295–300; tail 150 mm. long; weight nearly twelve ounces. This species is spread over the whole world; Australia excepted.

I have not been able to separate the *O. galapagoensis* of Mr. Gould, or the *Br. palustris*, (*americanus*,) Bp.

e. Subgenus PHASMOPTYNX.—The bill small and curved; wing long; first quill not so long as the fifth; 1–3 two inches from the end more or less emarginated; the first quill like *brachyotus;* toes very short, pectinated, thin feathered; feather-horns not distinct.

O. capensis, A. Smith; Ill. S. Afr. Zool. t. 67.—Head 67; tail 153 mm. long. It is found from the Cape of Good Hope to the extreme parts of Africa.

---

* By an exact comparison of this subgenus with the subgenus *Otus* and the others, we see that it shows no generic difference in its skeleton. For this purpose I intend to give, in my larger work, the skulls of European species.

III. Genus BUBO, Cuv.

Large Owls with ear orifices as large as the diameter of the eye, without operculum; feather-horns more or less distinct; the skull on the occiput very much enlarged. The greatest number are the largest birds. They must be divided into five different subgenera, of which the most are erroneously considered as true genera by the latest authors. This is a very grave fault!

a. Subgenus Lophostrix, Less.—Bill long and projected; *the first* quill, *like all the subgenera of the first rank, as long as the tenth; toes naked* with broad soles, and the claws, like the third and fifth subgenus, *Ketupa*, *Pseudoptynx*, *are falcated.* This subgenus, as the first, represents *Scops*, and this is the reason why some authors give that a place as a true genus next to this, which is quite wrong.

1. *B. cristatus*, Kp.; *Str. cristata*, Daud.; *griseata*, Lath.; *superciliosa*, Shaw; Vaill. Afr. t. 48; Mr. and Mrs. Strickland in Sir W. Jardine's Contr. Orn. cum fig. var. (1848).—It is nearly the size of *Otus vulgaris*, but appears larger from its long tail. It shows a great number of analogies with *Podargus*, which forms also the third subfamily in the second family of *Hirundinidæ*.

b. Subgenus Bubo.—With small, curved and black bill; wing long; the first quill distinctly shorter than the fifth; 2d to 5th obtusely emarginated. They are the representatives of the genus *Otus* in its own genus.

2. *B. bengalensis*, G. Gray; *Otus bengalensis*, Frank.; *Bubo* (*Urrua*) *cavearius*, Hodgs., Gmel.; Cent. Him. B. t. 3. The black vertical margin-feathers of the ear bound the veil; the feather-horns 62-67 mm. long, black at the root, and margined with rufous on the interior webs.

3. *B. ascalaphus*, Sav., Exped. Egypt, Ois. 3, 2; *Otus ascalaphus*, Cuv.; *Ascalaphia savignyi*, Geoff.; Gould. Eur. t. 38; Pl. Col. 57; Brit. Zool. pl. B. fig. 3.—A black vertical stripe bounds the veil of the ear; the feather-horns short, 44 mm. long, rusty yellow with black points; sides and belly rusty yellow, with round, white, black margined spots. Egypt, Nubia. Strays sometimes into Sardinia, Sicily, and even England.

4. *B. maximus*, *Strix bubo*, Linn.; Gould, 37, The veil or margin-feathers of the ear, not bounded by a black stripe. A handsome variety exists in the northern regions, which is very light coloured, nearly white. This is the *Bubo sibiricus*, Eversm.; Gray and Mitchell, Genera of Birds; Susemihl Vogel Europas. From Prince Buonaparte we learn that the *Bubo virginianus*, in high northern latitudes, also changes to a similar colour. The *Bubo capensis*, Daud., *Africanus steph.* Vaill. Ois. d'Afr. t. 40; Smith, Ill. S. Afr. Zool. B. t. 70, is not a distinct species; it has too few characters to separate it as a good species from the *Bubo maximus*. It may be possible that these mentioned varieties are subspecies from one and the same type (*Bubo maximus*). Europe, Africa, Asia.

5. *B. africanus*, Boie; *Str. Africana*, Temm. Pl. Col. 50; *Otus*, Cuv.; *Bubo maculosus*, Cass.; *Str.* Daud.; *Bubo cinerascens*, Guér.; *Bubo dilloni*, Desm. et Prev. Larger than *Syrn. aluco*; a black vertical stripe bounds the veil; feather-horns 60-70 mms. long, black with rusty yellow spots or bands; wings 308-365 mms. long. The smallest species of the whole subgenus. It is spread over the whole of Africa.

6. *B. virginianus*, Briss.; *Str. virginiana et Str. magellanicus*, Gmel.; *Bubo virginianus et articus*, Rich. and Swains. t. 30; *Bubo ludovicianus*, Daud.; *Str. crassirostris*, Vieill.; *Str. macrorhynchus*, Temm., Pl. Col. 62; Wils. t. 50; Aud. t. 61; Pl. Enl. 385; Vieill. t. 19. The veil bounded with a black vertical stripe; the feather-horns 62-84 mm. long, black at the root, the inner web rufous; wings 360 mm. long. It has in proportion to its body the largest bill. I cannot find a true difference between *virginianus* and *magellanicus*.

c. Subgenus KETUPA, Less.—Tarsus and toes naked; the claws, except that of the middle toe, sharp and falcated; the wings short; first quill as long as the eighth; the 1–4 curved, emarginated in the middle of the inner-web; bill large, projected. The greatest part of species are Asiatic; only one species African.

7. *B. ceylonensis*, Kp.; *Str. ceylonensis*, Gmel.; *Ketupa ceyl.* G. Gray; *Str. leschenaulti*, Temm. Pl. Col. 20; *Str. hardwickii*, Ill. Ind. Zool. pl. 31; *Cultriunguis nigripes*, Hodgs. The size of *B. virginianus;* the under side gray, with black shaft stripes and innummerable fine cross lines; feet blackish.

8. *B. flavipes*, Kp.; *Ketupa flavipes*, G. Gray; *Cultriunguis flavipes*, Hodgs., As. Soc. Beng. 1836, 964, pl. 26. Size of *Bubo maximus*. Lower parts of the body rufous, with black shaft-spots, feet yellow. Nepal.

9. *B. ketupa*, Kp.; *Str. Ketupa*, Horsf.; *ceylonensis*, Temm. Pl. Col. 74; *Scops ketupa*, Cuv.; *Ketupa javanensis*, Less. Size of the *Bubo africanus*; lower parts rusty-yellow, with narrow black shaft-spots. In Java common.

To this subgenus also belongs—

10. *B. peli*, Kp.; *Strix peli*, Temm.; *Scotopelia peli*, Bp. It is the largest of all, and is from Western Africa. I am very sorry that circumstances did not give me an opportunity to describe this very interesting species, which is typical of the whole subgenus *Ketupa* and the genus *Bubo*.

d. Subgenus URRUA, Hodgs.—Bill very strong and projected; the first quill to sixth distinctly emarginated, more in the middle of the wing; tarsus feathered; toes thinly feathered; claws of the usual form. They have more affinity with the second subgenus *Bubo* than with the first, third, or fifth.

11. *B. coromandus*, G. Gray; *Str. coromanda*, Lath.; *Urrua coromanda*, Hodgs.; J. Gray, Ind. Zool. pl. 20.—Size of the *Bubo africanus*. Total plumage ash-grey, with dark shaft-stripes and fine cross lines. The smallest in this subgenus.

12. *B. orientalis*, G. Gray; *Strix orientalis*, Horsf.; *sumatrana*, Raffl.; *strepitans*, Temm. Pl. Col. 174, ♂ 229 juv.; *Bubo strepitans*, Cuv.—Size 370-475 mm. long; the veil not bounded by a black stripe.

13. *B. nepalensis*, Hodgson.—Size of *Bubo maximus*; 600 mm. length; feather-horns, occiput, and lower parts with black arrow like spots; toes thinly feathered.

14. *B. lacteus*, Cuv.; *Str. lactea*, Temm. Pl. Col. 4.—The veil bounded by a black vertical stripe; total plumage rufous and ash-grey, with fine irregular markings. Africa.

e. Subgenus PSEUDOPTYNX; *Ketupa* with feathered tarsus and indistinct feather-horns,

15. *B. philippensis*, Kp.; *Syrnium philippense*, G. Gray.—Size

of *Bubo ketupa;* upper parts dark brown, with rusty yellow or rufous margins.

IV. Genus STRIX, Linn.

The claws of the middle toe on the interior margin distinctly pectinated. The ear orifice quadrangular, placed in the middle between two skin flaps, and bounded on the upper and lower margin by a membrane; the hind ear flap is small and equal in breadth, the anterior or operculum broadest in the middle; the ear slit begins over the eye and reaches nearly to the gape like *Otus*; symmetric. They are spread over all parts of the world.

a. Subgenus Phodilus, Is. Geoffr.—Wing short; first quill as long as the tenth; toes naked, scaled, without bristle-feathers.

1. *Str. badia*, Horsf.; Pl. col. 318; *Ph. badius*, Is. Geoff.—Smaller than *Str. flammea*, but very near to it in colour. Java. Rare in collections.

b. Subgenus Strix.—Middle size and very light; the first quill nearly as long as the second, the third a little shorter; first quill only, indistinctly emarginated on the end of the inner web; toes finely scaled, with bristle-feathers; the long wing overreaching the short tail.

2. *Str. punctatissima*, G. Gray, Voyage of Beagle B. p. 34, pl. 4. The smallest; the wing only 235 mm. long; the first quill shorter than the fourth. Galapagos Islands; British Museum.

3. *Str. glaucops*, Kp.—With silver grey face; the first quill as long as the fourth. Jamaica; British Museum.

4. *Str. st. thomae*, Hartl.—The upper parts nearly black grey with white black-bounded spots; margins of the feathers of the hind ear rusty yellow, with black shafts, or black shaft stripes next the gape and chin. Western Africa. I have not compared this species with Fraser's *Strix poensis*, from the Island of Fernando Po.

5. *Str. flammea*, Linn.; Pl. Enl. 440; Gould, t. 36.—The outermost series of feathers on the hind ear-margin pure white, or along the shaft with an indistinct line pointed at the end with dark

brown. I cannot find a difference in specimens from the Cape of Good Hope, Europe, Africa.

6. *Str. perlata*, Licht.; *furcata*, Temm. Pl. Col. 432.—Tarsus 73-79; wing 300-315 mm. long.—In this species we see specimens whose wings are nearly white; the end of the tail is more or less furcated than that of *Str. flammea*. Northern and South part of America.

7. *Str. delicatula*, Gould, B. of Austr. t. i.—Tarsus 67-67; wing 255–280 mm. long; the webs of the hind ear margin have a black stripe along the shaft, which is closed on the top with a zigzag crossband, or an arrow-like figure. Very near to the European, but the predominant colour is grey. I cannot find any difference between the examples of this species from Australia and those from Java; and I feel quite sure that *delicatula* and *javanica* belong to one and the same species.

8. *Str. candida*, Tick. Journ. A. S. R. ii. p. 572 (1833); *longimembris*, Jerd. Madr. J. Lit. and Sc. p. 86 (1839); *capensis*, A. Smith Ill. S. Afr. Zool. pl. 45.—Tarsus 85 mm. long; upper parts more or less uniform brown or blackish. Cape of Good Hope and Madras.

In this subgenus I have mixed the types of two small subgenera. Possibly the species with very long tarsi may form a new subgenus, which we can call in future *Scelostrix*.

d. Subgenus DACTYLOSTRIX.—With shorter wings and shorter wing-ends, which do not overreach the end of the tail; second quill the longest; third as long as the second. They have not the light aërial body of the second subgenus *Strix*, but they have a stronger bill, powerful toes, and stronger shafts to the quills; the toes yellow with fine scales and bristle-feathers. They are large Owls, and prey upon animals larger than mice.

9. *Str. castanops*, Gould, B. of Aust. tom. i.—Middle toe 57–58 mm. long. Australia, Van Diemen's Land.

10. *Str. personata*, Vig. Proc. Zool. Soc. p. 60 (1831); *Str. cyclops*, Gould, B. of Aust. tom. i.—wings 312; tarsus 61–33; middle toe 42–46 mm. long.

e. Subgenus MEGASTRIX.—With short wings and short and obtuse wing-end. The first quill as long as the sixth, the second and fourth a little longer, third the longest; toes completely naked and scaled like *Phodilus*, or thinly covered with short bristles.

11. *Str. tenebricosa*, Gould, B. of Aust. tom. i.—With dark grey face, plumage blackish, marbled with grey; toes yellow.

V. GENUS SYRNIUM, SAV.

Without feather-horns; claw of the middle toe not pectinated; veil distinct; the first quill shorter or just as long as the tenth.

a. Subgenus CICCABA, Wagl.—Ear orifice very small like a Day Owl and without operculum; toes naked and scaled like *Scops*; the second quill to the sixth on the exterior web, the first to the fifth on the inner web, emarginated; bill feeble and projected; middle size.

1. *S. huhula*, Kp.; *Str. huhula*, Lath.; *lineata*, Shaw; *albomarginata*, Spix., pl. 10, a.—Black with numerous white cross-bands. Cayenne.

2. *S. hylophilum*, G. Gray; *Str. hylophila*, Temm. Pl. Col. 373; *Syrn. albotarse*, G. Gray; *Ulula fasciata*, O des Murs, Pl. xxxvii.—Size of *Syrn. aluco*. Breast and belly with dark cross-bands, one or two on each feather. Brazil.

3. *S. nudipes*, Kp.; *Str. nudipes*, Daud.; *La choutte nudipede*, Vieill., Am. pl. 16.—Size of *Athene noctua;* the greatest part of the tarsus without feathers. Porto Rico. In the Museum at Paris are two specimens, one is more greyish and the other more rufous. I have no doubt that the naked tarsus is natural. A very young one out of the nest, from St. Domingo, has the same character, and has the greatest part scaled.

4. *S. albipunctatum*, Kp.; *Scops albipunctatus*, G. Gray; *Syrn. albogulare*, Cass.; *Syrn. macabrum*, Bp.—Tail 128 mm. long with fourteen regular bands on the lower side. Colombia.

5. *S. cayanense*, Kp.; *Strix cayanensis*, Gmel. (juv.); *fasciata*, Vieill.; *Syrn. zonocircum et polygrammicum*, G. Gray; *Str. sunda*, Vieill. (juv.); *squamulata*, Licht.—The lower parts rufous, with dark brown shaft-spots; wings 240–265; tail 143–157 mm. long.

6. *S. woodfordi*, Cass.; *Athene woodfordi*, A. Smith, Ill. S. A. Zool. 71.—The lower parts with four line like cross bands on each

feather; between the last cross lines a white band; the margin rufous. Cape of Good Hope.

b. Subgenus SYRNIUM.—Bill feeble and yellow; ear orifice middle size and asymmetric, with large operculum; toes thickly feathered; first quill, second to fifth, pectinated on the emarginations. Between the size of *Aluco* and *Bubo maximus.* They are spread over the whole world, New Holland excepted.

7. *S. aluco*, Cuv.; *Str. aluco* and *stridula*, Linn.; *Syrn. ululans*, Sav.; Gould, Eur. 17.—Head 70, tail 170 mm. long. Found in woods of Europe and Asia.

8. *S. cinereum*, Bp.; *Str. cinerea*, Gmel.; *lapponica*, Retz.; *barbata*, Pall.; *Ul. microphthalma*, Tyzenski; Gould, Eur. 42.—The face ash-grey with concentric rings. Europe, Asia, and America.

9. *S. nebulosum*, Boie.; *Str. nebulosa* and *chichictli*, Gmel.; Wilson, 33, 2; Aud. 46; Gould, Eur. 46.—Size between *aluco* and *uralense*; head 84; wing 320; tail 205 mm. long. Northern parts of America, never in Europe.

10. *S. uralense*, Brehm.; *Str. uralense*, Pall.; *liturata*, Retz.; *macroura*, Natt.; *macrocephala*, Meisn.; Gould, Eur. t. 44.—The grey or whitish face without concentric rings; margin of the shoulder covers with large white spots. Size of a little *Bubo maximus*, or 26 inches long. Northern parts of Europe and Asia (Siberia).

11. *S. nivicolum*, Hodgs.—Head 74; wings 286; tail 185; bill 23 mm. long. Larger than *Aluco*, and the colour more variegated and brilliant. Central Asia.

c. Subgenus BULACA, Hodgs.—Ear orifice not larger than the diameter of the eye with small operculum; bill strong, straight, projected and mostly black; first to sixth quill emarginated near the middle; toes feathered.

12 *S. indranee*, G. Gray; *Strix indranee*, Syk. Proc. Zool. Soc. p. 82 (1832); Gray & Mitchell, Genera of Birds, pl. 14; *Bulaca newarensis*, Hodgs.; *monticola*, Jerd.; *Urrua umbrata*, Blyth.—The lower parts white with numerous black cross bands; head, neck, and back, uniform dark brown. Country of the Mahrattas. Rare. (Sykes).

13. *S. sinense*, G. Gray; *Str. sinensis*, Lath; *orientalis*, Shaw; J. Gray, Ill. Ind. Zool. t. 21.—Lower parts rufous with large white spots, each feather with two to five narrow black cross bands; head, neck and back, whitish, variegated on a rufous ground.

14. *S. seloputo*, Kp.; *Str. seloputo*, Horsf.; *pagodarum*, Temm. Pl. Col. 230.—Cheeks, lorum, and front, bright rusty red. Java.

15. *S. leptogrammicum*, Cass.; *Str. leptogrammica*, Temm. Pl. Col. 525.—Breast rusty red without bands; head without spots or bands; cheek and lorum whitish; a black brown stripe from the front round the ear-covers. Borneo.

d. or e. Subgenus PULSATRIX.—Bill strong, high, curved from the root, with sharpened culmen; ear without operculum, not so large as the diameter of the eye; first quill to the sixth emarginated nearer the root than the end; toes feathered to the scales of the claws.

16. *S. torquatum*, Kp.; *Str. torquata* and *personata*, Daud.; Vaill. 42, 44 (juv.); *Str. perspicillata*, Lath.; *superciliosa et larvata*, Shaw.—Blackish with front and stripe over the eye white; lower parts white, with brown chin and breast band. Guiana, Brazil.

LIST

OF

A COLLECTION OF BIRDS

MADE

BY JAMES DAUBENY, ESQ.

ON

THE COASTS OF THE RED SEA IN 1851,

BY PHILIP LUTELY SCLATER.

THE collection of bird skins of which the following is the catalogue, was formed by Mr. James Daubeny, principally on the shores of the Red Sea. The greater number of the species are Abyssinian, and were collected apparently near Massowa, a village on the coast of that country, though some few are from Ayoun Mousa, or Moses' Wells, not far from Suez; one or two from Mocha, and others from Mokolla on the South coast of Arabia. They are consequently nearly all included in the very full list of North-East African birds given by M. Rüppell in the latest and most complete of his works, the *Systematische Uebersicht der Vögel Nord-Ost-Afrika's.* The Ornithology of this portion of Africa has in fact been pretty well worked out, and there remain probably but few new species to be found on the west coast of the Red Sea; but on the eastern or Asiatic side, where the African Fauna passes into that of India, the Ornithology is nearly unexplored, and there are doubtless many discoveries still to be made.

Mr. Strickland has assisted me in naming some of the following species, which I had some difficulty in determining.

1. *Tinnunculus alaudarius*, G. R. Gray. From the ruins near Hansley Bay.

2. *Melierax polyzonus*, (Rüpp.)♀; *Falco polyzonus*, Rüpp., Faun. Abyss., t. xv. fig. 1. Cosso. Mr. Gray identifies M. Rüppell's species with the South African one figured by Le Vaillant, pl. 27, *M. musicus* (Daud.); but when at Frankfort last summer, Dr. Rüppell showed me the two species in the Senckenberg Museum, apparently quite distinct.

3. *Scops* ——? Red sea; flew on board.

4. *Cotyle riparia* (Linn.) From Zanzibar. Agrees well with English specimens.

5. *Cypselus ambrosiacus* (Gm.)

6. *Coracias abyssinica*. Linn. Abyssinia.

7. *Coracias caudata* (Linn.) This Roller has been much confounded with *Coracias abyssinica*. It is however more like *C. bengalensis*. It is a rare species. The present specimen is probably from Zanzibar, as it is not found in the more northern portion of Africa.

8. *Coracias pilosa* (Lath.) Abyssinia.

9. *Ceryle rudis* (Linn.)

10. *Halcyon pygmæa*, Rüpp. Atlas, t. xxviii. Moses' Wells.

11. *Halcyon semicærulea*, Förskal. Rüpp. Wirb. t. xxiv. Fig. 1. Abyssinia.

12. *Merops apiaster*, Linn. Moses' Wells.

13. *Merops lamarcki*, Cuvier. Near Hansley Bay.

14. *Merops albicollis*, Vieill. Massowa; or rather Winayoore, about 180 miles from it; not noticed by M. Rüppell.

15. *Merops nubicus*, Gm. Moses' Wells.

16. *Irrisor erythrorhynchus* (Lath.)

17. *Nectarinia metallica*, Rüpp. Atlas, t. 7. Abyssinia.

18. *Nectarinia abyssinica*, Ehr. Symb. Phys. t. 4. Cosso.

19. *Nectarinia natalensis*, Jardine. *Var*. Zanzibar. M. Jules Verreaux, considers the Port Natal and Zanzibar specimens as distinct species.

20. *Nectarinia albiventris*, Strickland. Sp. nov. Ras Hassoun, African coast. This new species is described and figured in the present volume of Contributions to Ornithology, page 42, plate lxxxvi.

21. *Prinia gracilis*, Rüpp. From Cosso.

22. *Oligura micrura*, Rüpp. Abyssinia.

23. *Aedon galactotes* (Temm.) About Mokolla. Not included by M. Rüppell in his List of the Ornithology of N. E. Africa.

24. *Turdus olivaceus*, Linn. An immature specimen.

25. *Saxicola leucomelas* (Gm.) Abyssinian Coast.

26. *Saxicola stapazina* (Gm.) Near Massowa.

27. *Saxicola isabellina*, Rüpp. Mokolla, Febry.

28. *Motacilla alba*, Linn. Zanzibar.

29. *Anthus arboreus* (Linn.)

30. *Oriolus galbula*, Linn. Juv.

31. *Dicrurus lugubris*. Ehr. Symb. Phys. t. 8.

32. *Lanius algeriensis*, Lesson. From Mokolla. Near Massowa.

33. *Lanius* ——? —— This species seems intermediate between *L. isabellinus*, Ehrenb., and *L. arenarius*, Blyth.—*(H. E. Strickland)*.

34. *Dryoscopus æthiopicus* (Rüpp.) = *Telophonus æthiopicus*, Rüpp. Syst. Ueb. t. xxiii.

35. *Telophonus senegalus* (Linn.), (Shaw.) Abyssinia.

36. *Laniarius erythrogaster* (Bodd.) Abyssinia.

37. *Prionops cristatus*, Rüpp.

38. *Juida leucogastra* (Linn.) Abyssinia.

39. *Juida* ——? —— Abyssinia.

40. *Buphaga erythrorhyncha* (Stanley.) Mokolla.

41. *Hyphantornis galbula* (Rüpp.) Cosso.

42. *Passer swainsoni* (Rüpp.) — *Pyrgita swainsoni*, Rüpp. t. xxxiii. fig. 2.

43. *Euplectes ignicolor* (Vieill.) Abyssinia.

44. *Vidua paradisea* (Linn.) Cosso.

45. *Amadina fasciata* (Gm.) Abyssinia.

46. *Alauda cristata* (Linn.) The Prince Canino separates the Abyssinian Crested Lark from the European, under the title of *Galerida abyssinica*; but I cannot find much difference in the present specimen.

47. *Pyrrhulauda leucotis* (Stanley.)

48. *Colius macrurus*, Linn. Cosso. Figured Gray's Genera.

49. *Toccus nasutus* (Linn.) Cosso.

50. *Turacus leucotis* (Rüpp.) Abyssinia.

51. *Agapornis tarantæ* (Stanley.) Abyssinia. The genus *Agapornis* was instituted by Mr. Selby for the reception of the small

Parrots, known by the name of Love Birds and Guinea Sparrows: Mr. Gray has united it to the American group *Psittacula*, Brisson. The only African examples of the present genus that I am acquainted with, are, besides the present, *Agapornis swinderniana* (Kuhl), said to be from South Africa, and *Agapornis pullaria* (Linn.), from the Guinea Coast.

52. *Pogonias melanocephalus* (Rüpp.) This specific name has the advantage of two years' priority over M. Ehrenberg's, which is the one adopted by Mr. Gray.

53. *Trachyphonus margaritatus* (Rüpp.) Abyssinia.

54. *Centropus senegalensis* (Linn.) Zanzibar.

55. *Treron abyssinica* (Lath.) Abyssinia.

56. *Turtur migratorius*, Selby. Mokolla. Moses' Wells.

57. *Æna capensis* (Linn.) Mokolla, Feb^{ry}.

58. *Peristera chalcospilos*, Swains. Rüpp. Syst. Ueb. pl. 38.

59. *Pterocles exustus* (Temm.) Abyssinia.

60. *Œdicnemus* —— ? —— Arkego.

61. *Vanellus leucurus* (Eversm.) Sav. Descript. de l'Egypte Ois. t. vi. fig. 2.

62. *Squatarola helvetica* (Linn.) Arkego.

63. *Hoplopterus spinosus* (Linn.)

64. *Herodias garzetta* (Linn.)

65. *Herodias schistacea* (Ehr.) Symb. Phys. t. vi.

66. *Buphus coromandus* (Bodd.) Abyssinia.

67. *Scopus umbretta*, Gm.

68. *Dromas ardeola*, Payk.

69. *Numenius arquata*, Linn.

70. *Totanus calidris*, Linn. Suez.

71. *Tringa minuta* (Leisler.)

72. *Pelidna alpina*, Linn.

73. *Podiceps cornutus*, Linn. Juv. Moses' Wells.

74. *Sterna affinis*, Rüpp. Mocha.

75. *Sterna hirundo*, Linn. Suez.

76. *Sterna minuta*, Linn. Suez.

ORNITHOLOGICAL NOTES

BY H. E. STRICKLAND.

DESCRIPTION OF *IRIDOSORNIS DUBUSIA* (BON.)

PLATE XCIV.

THE bird before us has never hitherto been figured, and as it has given rise to a considerable amount of synonymical confusion, it presents an appropriate subject for illustration.

There is a bird somewhat resembling this, to which Florent Prevost gave the name of *Tanagra ruficervix*, and which he figured in the "Voyage de la Vénus," pl. 5, f. 1. It is the *Calliste ruficervix* of Mr. Sclater, "Contrib. Ornith.," 1851, p. 58, who also there defines two other species, *C. leucotis* and *C. atrocærulea*, both of which have been erroneously referred to the *Tanagra ruficervix* of Prevost. But besides these two species there is also a third, the subject of my present notice, which was referred to the original *ruficervix* by M. de Lafresnaye, in the "Revue Zoologique," 1842, p. 335. In quoting Prevost's species, however, he inadvertently wrote the name *rufivertex* instead of *ruficervix*, an error which the Prince of Canino, who first detected it, terms "une heureuse inadvertance, car c'est uniquement à cause d'elle que le nom specifique de *ruficervix* [the Prince himself evidently meant to have written *rufivertex*] peut être conservé à cette espèce, rendant inutile celui de *Tanagra dubusia*, sous lequel je l'ai décrit dans mon *Conspectus*." Now I do not agree with this eminent ornithologist, in thinking that a mere *lapsus calami* has any claim for perpetuation on the ground of priority. M. de Lafresnaye, when he wrote the name *rufivertex*, thought that he was quoting Prevost's denomination, and had no intention of conferring an original name of his own. The originality of the name was due to an accidental but very excusable blunder, which ought to have been corrected in the *errata*, in which case its originality would have vanished. It is moreover a proof of the confusion likely to arise from retaining *rufivertex* and *ruficervix* as independent titles for these two distinct species, that the Prince of Canino, when in the very act of pointing out the clerical error committed by Lafresnaye, has himself perpetrated the converse of the same mistake, by writing *ruficervix* for *rufivertex*.

It appears evident, that this is a case, in which without any departure from the spirit of the "law of priority," we are justified in cancelling altogether the name *rufivertex* as a mere *lapsus calami* for *ruficervix;* and as this name is shown to belong to a distinct species from the bird before us, we must retain for the latter the specific name *dubusia*, given to it in 1850 by Prince Bonaparte, prior to his criticism above quoted.

This bird has been adopted as the type-species of three distinct generic names, viz.—*Iridosornis*, Lesson, in "Echo du Monde Savant," June, 1844; *Pœcilornis*, Hartlaub, "Revue Zoologique," October, 1844; and *Euthraupis*, Cabanis, 1850. *Iridosornis* being the oldest of these, is here retained, though the name *Pœcilornis* has been inadvertently printed on the Plate.

Desc.—Crown, rich golden orange; rest of head, throat and nape, black; back, lesser wing-covers and belly, deep Prussian blue; greater wing-covers, remiges and rectrices, black, margined externally with greenish-blue; vent rufous; upper mandible, horn colour; lower, paler; legs brown.

Total length $\dot{5}.\ddot{8}$; beak to front $\ddot{4}$, to gape $\ddot{5}$, height $\ddot{2}\frac{1}{2}$; wing $\dot{3}$; tail $\dot{2}.\ddot{7}$; tarsus $\ddot{9}$.

DESCRIPTIONS

OF SOME

NEW SPECIES OF BIRDS FROM THE PARISIAN COLLECTIONS.

FOR the illustrations accompanying this paper we are indebted to Mr. Edward Wilson of Tenby, to whom we have often had occasion to express our acknowledgments for the kind interest he has taken in these "Contributions." When in Paris lately, Mr. Wilson saw some figures of birds executed by Mon. Chenu, printed entirely in colours; and being struck with their execution, directed three plates to be prepared for this work (Plates XCVI. XCVII. XCVIII.) It will easily be seen that some subjects will work better and more harmoniously than others, while some may require a slight assistance or touching by the hand; but in any circumstances, if figures such as are now given can be procured at a lessened expense by printing, thereby saving the laborious and expensive operation of colouring by hand, a great assistance will be gained to the production of coloured illustrated works. The other two figures (Plates XCIX. C.) are lithographed and coloured in the usual way, being drawn by Oudart, whose name is so well known in the continental works upon Ornithology. These may be usefully contrasted with the former.

The birds have been described by Mr. Sclater in conjunction with M. Deville, from specimens in the Collection of the Jardin des Plantes, and published in the "Revue et Magazin de Zoologie," from which we now quote.

COTINGA PORPHYROLÆMA, Deville et Sclater.*

Plate XCVI.

"Suprà nigra, dorsi plumis pennisque, nisi primariis, albo marginatis; infrà, gulâ violacea purpureâ; rostro et pedibus nigris; uropygii plumis laxis admodum elongatis.

"Long. tota, 17 c. 5 m.; alæ, 9 c. 5 m.; caudæ, 6 c. 5 m.

"Dessus de la tête et oreilles noires; ventre blanc; gorge d'un violet pourpré; dos squammé de plumes noires et blanches, chaque plume étant terminée par une bande blanche qui lui donne cette apparence squammeuse. Ailes noires, une bande blanche étendant sur toutes les couvertures des ailes; les plumes latérales du ventre sont squammeuses à leur extremité; celles du croupion ont le blanc plus étendu; queue noire; bec et pattes d'un gris plombé; œil d'un brun clair.

"Cet oiseau qui ne se rencontre que dans les bois humides, se tient généralement au sommet des arbres, où il est tres-dificile de l'apercevoir, malgré son chant rauque et tres prolongé, qui, du reste, est le même que celui de tous les *Cotingas*. Il ressemble au son d'une cloche grave; il est fort en commençant, et aigu vers la fin.

"Le Cotinga est essentiellement frugivore, et j'ai toujours trouvé, dans tous les estomacs que j'ai ouverts, ces derniers remplis de fruits, et surtout de fruits aromatiques.

"Cet oiseau vit généralement par paires, et son vol est très-léger. Le seul individu type de l'espèce que l'expédition ait pu se procurer a été tué près la mission de Sarayacou, rivière de l'Ucayale (Pérou, Pampa del Sacramento)."

The next plates refer to the descriptions of some birds, which Mr. Sclater when examining the Tanagrine birds in the Parisian collection, considered as undescribed. These were published in the same periodical.†

---

* Description d'une nouvelle Espèce de Cotinga provenant de l'Expédition de MM. Castelnau et Deville dans l'Amérique du Sud.; par MM. E. Deville et Sclater. Rev. et Mag. de Zoologie, No. V., 1852. p. 226.

† Description de Six Oiseaux Nouveaux appartenant à la Collection du Muséum d' Histoire Naturelle de Paris, par Philip Lutley Sclater. Rev. et Mag. de Zoologie, No. I., 1852, p. 8.

"M'étant occupé, depuis un certain temps, des oiseaux Américains, et principalment des familles *Tanagridæ* et *Pipridæ*, je suis venu exprès visiter le musée de Paris dans l'intention d'y examiner les types rares et d'une valeur inappréciable que renferme cette magnifique collection.

"Après avoir parcouru minutieusement ces divers groupes, et trouvé quelques espèces nouvelles, M. le professeur de zoologie ayant bien voulu m'autoriser à les décrire, je m'empresse de les enregistrer dans la liste de la science.

"Les cinq premières espèces ont été envoyés de la Nouvelle-Grenade par M. Lewy, et la sixième est sans indication de localité."

ARREMON MYSTICALIS, Sclater.

Plate XCIX.

"A. suprà olivaceus, pennis caudâque nigris, olivaceo limbatis; pileo rufo; fronte et capitis colliquc lateribus cum gulâ, nisi mediâ, atris; mento, gulâ mediâ, et lineâ a basi rostri collum utrinque descendente albidis; abdomine crissoque flavis, lateribus olivascentibus; rostro nigro pedibus corneis.

"Long. tota, 6¼ poll. angl.; alæ, 3⅞ poll."

PIPILOPSIS FLAVIGULARIS, Sclater.

Plate XCVIII.

"P. suprà olivacea, pennis caudâque nigris olivaceo limbatis; infrà abdomine toto cum mento cinereis, gutture flavo, crisso flavescente: rostro plumbeo, basi albo notato; pedibus plumbeis; ventre medio albescentiore.

"Long. tota, 5½ p.; alæ, 3¼ p.

"Obs. — Rostro *Pipilopsi flavipectori* similis sed paululùm fortiore."

PIPRAEIDEA ALBIVENTRIS, Sclater.

Plate C. Fig. 2.

"P. suprà cœrulea, pennis nigris angusté cœruleo marginatis; caudâ nigrâ; ventre crissoque albo; rostro pedibusque nigris.

"Long. tota, 3¼ p.; alæ, 2⅛ p.

"Obs. — *P. vassori*, Lesson., affinis sed rostro minore debiliore."

PIPRA ISIDOREI, Sclater.

Plate C. Fig. 1.

" P. atra; capite albo; uropygio cyaneo.

" Long. tota, 3 p.; alæ, 1⅛ p.

" Obs.—Species capitis et uropygii coloribus inter *Pipras leucocillam* et *cæruleicapillam* media locanda."

PIPRA FLAVICAPILLA, Sclater.

Plate XCVII. Fig. 2.

" P. flavo-olivacea, remigibus rectricibusque nigricantibus olivaceo limbatis; capite toto cum cervice suprà aurantio-flavis; subtùs aureo-flava gutture et cervicis lateribus olivaceo tinctis; pedibus nigricantibus; rostro plumbeo.

" Long. tota, 4½ p.; alæ, 3 p.; caudæ, 1¾ p.

" Obs.—Longitudine caudæ, rostri formâ, capite quoque subcristato generi *Masio* affinis sed tarsis brevioribus."

PIPRA PYROCEPHALA, Sclater.

Plate XCVII. Fig. 1.

" P. roseo-brunnea; subtùs dilutior, leviter saturatiore striata; alis et lateribus cervicis olivaceis; remigibus et rectricibus nigricantibus; capite suprà flavo, vertice mediâ ruberrimâ; rostro nigricante, pedibus albescentibus.

" Long. tota, 3¼ p.; alæ, 2¼ p.

" Obs. — Affinis *Pipris strigillatæ et striolatæ*, auctorum, sed capite flavo, vertice solum mediâ coccineâ facile dignoscenda."

ON A NEW SPECIES

OF

THE FAMILY OF *AMPELIDÆ*,

BY DR. EMILIO CORNALIA OF MILAN.

EUCHLORNIS SCLATERI, CORNALIA.

PLATE CII.

E. smaragdino-viridis; mento, gulâ pectoreque coccineo, parte basali pennarum lætè flavâ indè albidâ; crisso pallidè flavo; remigibus quinque primariis nigris extùs, viridi atque flavo leniter limbatis, primâ exceptâ albo terminatis; secundariis viridibus maculâ albo-flavâ, lunulâ nigrâ superiùs limitatâ, sordidè terminatis, necnon internè circumdatis; rostro flavo-rubro, apice nigricante; pedibus rubris; caudâ viridi, subtùs brunneâ, plumis albicante terminatis, necnon quasi in punctum protractis; rictalibus vibrissis nigris.

Long. tota, ȯ.128m; alæ, ȯ.075m.

Hab. Peruviam.

Museo Civico Mediolanensi,
Milano, Oct. 28, 1852.

NOTE

UPON

DR. HARTLAUB'S *CINNYRIS BIANCONII.*

"CONTRIBUTIONS" for 1852, p. 78.

Mons^{r}. PHILIP LUTLEY SCLATER,

Je profite de votre bienveillante médiation pour prier Sir Wm. Jardine de vouloir bien donner insertion à la note suivante dans ses interessantes "*Contributions.*"

Je remercie M. Hartlaub, de la bonté qu'il a eu pour moi (Contribut. 1852, p. 78). Aussitôt que j'ai pu consulter le vol. iv. de cette même ouvrage, j'ai pu me convaincre que le *Cinnyris* que j'avais appellé *C. discolor*, avec la difference de la *maculâ coloris violacei nitidissimi ad summum angulum alarum*, s'était dejà elevé au rang d'espèce nouvelle par Sir William Jardine, *Cinnyris natalensis.* C'est une faute que je vais corriger dans la suite des *Specimina Zoologiæ Mosambicanæ.*

Après il me semble qu'il se plaigne de ce que les publications Italiennes ne parviennent pas aux savants qu' avec beaucoup de peine. Je regrette bien vivement que la chose n'est que trop vraie; cependant pour en diminuer quelque peu la difficulté j'ai toujours offert aux naturalistes mes amis, de leur procurer dans l'interêt de la science, et de mon pays, les ouvrages d'hist. naturelle, qu'ils chercheront peut-être inutilement ailleurs.

Veuillez donc en profiter vous même, M^{r}., et vos amis aussi.

Votre très devoué,

J. JOSEPH BIANCONI,

Prof^{r}. d'Hist. Natur. à l'Université.

Bologna (Italie), Octob. 1852.

DESCRIPTIONS

OF

THREE NEW SPECIES OF HUMMING BIRDS,

BY J. GOULD, ESQ., F.R.S., &c.

MY DEAR SIR WILLIAM,

I send for insertion in your Contributions, descriptions of three new species of Humming Birds, two of which are from Bolivia, the third from Mexico—affording further evidence, that we are still unacquainted with many species of this lovely group of Birds.

Ever yours truly,

JOHN GOULD.

20, Broad Street, Golden Square,
London, Oct. 22, 1852.

RAMPHOMICRON VULCANI.

HEAD, sides, back of the neck and wing-coverts, greenish-brown; back and rump deep violet blue; wings purplish-brown; upper tail-coverts and tail dark bluish-green; down the centre of the throat a series of scale-like feathers, broad at the chin and tapering to a point on the breast, the upper part of which is of a brilliant metallic emerald green, passing into steelly amethystine blue; under surface dark brownish-grey; under tail-coverts greyish-white, with a streak of steel-blue down the centre of each feather; bill and feet black.

Total length, $4\frac{1}{2}$ inches; bill, $\frac{9}{16}$; wing, $2\frac{5}{8}$; tail, $2\frac{1}{4}$.

Habitat. Bolivia.

Remark—Nearly allied to *R. stanleyi*, but of a much smaller size; greyer on the breast, and the lower part of the beard steelly amethystine blue, with little or none of the reddish tinge seen in that species.

Collected by M. Warszewicz.

BOURCIERIA INCA.

On the forehead a spot of splendid metallic green; crown of the head, back of the neck and wing-coverts, bronzy green; back and abdomen lustrous metallic green; throat and a gorget-like band across the chest reddish-buff; two centre tail-feathers bronzy green, the two next on each side white at their base, broadly tipped with olive green; the two next white throughout their length, except that on the apical portion of the margin of the inner web there is a broad streak of blackish-brown, and a narrow streak of the same hue opposed to it on the outer web; the next on each side is also white, with a narrow hair-like line of blackish-brown on the apical portion of the margin of the inner web, and a broader one of the same hue opposed to it on the outer web; lastly, the outer feather is white, with the exception of the apical two-thirds of the outer web, which are blackish-brown; bill black; feet yellow.

Total length, 5¼ inches; bill, 1⅝; wing, 2⅞; tail, 1¾.

Habitat. Bolivia.

Remark—The above description is taken from an immature male. In the adult, the throat, I have reason to believe, will be brilliant green, bounded by a well defined gorget of reddish-buff across the breast.

Whenever the adult becomes known, it will doubtless prove to be one of the finest species of the *Trochilidæ* yet discovered. In size and structure it closely assimilates to *Trochilus conradi*, *T. torquatus*, and *T. insectivorus*.

Collected by M. Warszewicz.

TROCHILUS (——?) AURICEPS.

FOREHEAD and crown of the head of a glittering metallic golden hue; upper surface and wing-coverts golden green; throat and the whole of the under surface lustrous metallic green; wings purplish-brown; tail, which is deeply forked and longer than the body, purplish-black, all but the outer feather on each side obliquely tipped with greyish-green; bill reddish at the base, and black for the remainder of its length.

Total length, 3⅝ inches; bill, ⅝; wing, 1¾; tail, 1⅞.

Habitat. Mexico.

Remark—Allied to *T. caniveti*, but differs from that species in its long and deeply forked tail, the feathers of which are extremely narrow.

From the Collection of Don Floresi d'Arcais.

DESCRIPTION

OF

SIGMODUS CANICEPS, BONAP.

SOME time since, by the attention of Mr. Gould, we received a specimen of this curious form, which he procured from a London dealer, but without being able to ascertain its exact locality. We had prepared a figure of it nearly at the same time that we received a letter from Dr. Hartlaub, who has been long writing upon the Birds of Western Africa, and which contained an accurate description. His views upon its position we have printed entire. It has, in addition, a remarkable alliance to *Prionops* in the structure of the feathers of the crown, and in the structure and marking of the wings. The dimensions at the conclusion of the description are given from our own specimen.

BREMEN, March 26, 1852.

SIR—Knowing your interest in the Birds of Western Africa, I thought it would give you perhaps some pleasure to become acquainted with one of its rarest and most extraordinary types, the *Sigmodus caniceps* of Temm. in Mus. Lugdun. Bonaparte has given the first notice of it, and a very short and unsatisfactory description in his Conspectus Generum Avium, page 365. I do not know at present *the exact locality* whence the bird came. It was collected by the Dutch collectors on the *Gold Coast*, very probably together with *Musophaga gigantea*, which the Leyden Museum received in the same way. As to the generic position of *Sigmodus*, Bonaparte was very right in placing it near *Chaetoblema*, Cuv. The feathers of the uropygium and under part of the back, are rather long, silk-like, soft, *but not in such a degree* as in *Hapolophus*, *Chaunonotus*, &c.

Yours, Sir, most truly,

DR. E. HARTLAUB.

SIGMODUS, Temm.

" Char. Gen. — *Rostrum* longiusculum, rictus aduncum, culmine rotundato, naribus linearibus, plumis frontalibus setaceis antrorsum incumbentibus suboccultis.

Pedes breves, graciles, debiles, digitus externus, internus et posticus subaequales ; ungues debiles, pallidi.

Ala elongata, dimidium caudae attingens, subrotundata, remix 4 ta. longissima, 3 et 5 subaequales, secunda multo brevior, prima spuria.

Cauda mediocris, subrotundata.

Ptilosis sericea, tergi et uropygii plumae longiusculae, molles, laxae.

S. caniceps, Temm.—Niger, nitore nonnullo aeneo, pileo cano ; pectore et epigastrio albis ; abdomine et sub-caudalibus dilute fulvis ; rostro et pedibus rubris.

Body above, wings, tail, head, neck all round, throat and chin, black, with a faint greenish or brown gloss ; crown of a circumscript beautiful light bluish-grey ; nasal feathers the same ; the whole breast white. Body below, vent and under tail-coverts ochraceous ; all the larger remiges have a large square snow-white spot *on the inner web*, by which a very regular white band is formed on the inner side of the wing ; inner coverts all black ; the soft long feathers of the tergum are mixed with white but not very distinctly ; bill and feet coral red.

Gold Coast. Mus. Brem."

Entire length, $\dot{7}.\ddot{5}$; wing to fourth quill, $\dot{4}.\ddot{7}$.

LIST

OF

A COLLECTION OF BIRDS

PROCURED

BY MR. C. T. ANDERSSON

IN

THE DAMARA COUNTRY IN SOUTH WESTERN AFRICA

WITH NOTES

BY H. E. STRICKLAND AND P. L. SCLATER.

Mr. FRANCIS GALTON, an active member of the Royal Geographical Society, set out in the autumn of 1850, with the intention of penetrating the interior of Southern Africa. He started from Walvish Bay, on the south west coast, in latitude 23° south; and passing through the Damara country, reached the longitude of 21° east—a distance of about 500 miles in the interior. An account of his journey will be found in the Journal of the Geographical Society, vol. xxii. p. 140. He was accompanied by Mr. C. T. Andersson, a Swede, who formed a considerable collection of birds, which were consigned to Mr. A. D. Bartlett of London for sale. Unfortunately, as too often happens in such cases, many of these birds were dispersed before any catalogue was made of them. Some were purchased for the British Museum; others were bought by Mr. Frank, a dealer in Amsterdam; and of the residue, about 100 specimens have passed into my possession.

As the Damara country is intermediate between the regions of Southern and Western Africa, the Ornithology of each of which has been pretty fully investigated, it is the more to be regretted, that no complete list of these birds is now attainable, as it would have thrown much light on the geographical distribution of species. Mr. Sclater and I have done our best to supply this loss, by compiling a list of the species purchased by myself, including also some of those which are now in the British Museum.

The Namaqua Land, where Levaillant collected many of his birds, being adjacent to the Damara country on the south, it is interesting to recognize in this collection several of his species, which are unknown in the Cape colony, and some of which have been hitherto recorded on his authority alone. Dr. Andrew Smith also penetrated in the same direction; and we accordingly find many of the Damara Birds delineated in his Illustrations of the Zoology of Southern Africa.

It is remarkable, that among the sixty-two species of birds from Caffraria, described by Prof. Sundevall in the "Öfversigt af Kongl. Vetenskaps-Akademiens Förhandlingar," 1850, p. 97, there is not one which I have been able to identify in the Damara collection. This fact shows, that as is the case of South America, the birds of Southern Africa are to a great extent limited to special localities; a circumstance which of course greatly increases the numerical richness of the fauna. Prof. Sundevall estimates the total amount of the Ornithology of the South African continent at 700 species.—H. E. S.

1. *Milvus parasiticus*, Daud.; Levaill. Ois. Af. pl. 22.

2. *Accipiter gabar*, Daud.; Ois. Af. pl. 33.

3. *Accipiter niger*, Vieill.; Gal. Ois. pl. 22; (*A. carbonarius*, Licht.) Vieillot describes it as only $\dot{9}$ (French) long, but my specimen (probably a ♀) measures $\dot{1}2$ (English.)

4. *Tinnunculus rupicolus* (Daud.)

5. *Scops leucotis*, Tem., pl. col. 16.

6. *Scops senegalensis*, Swains. Birds West. Af. v. i. p. 127. This species is quite distinct from *Scops zorca* of Europe. The wing measures only $\dot{5}.\ddot{1}$, while that of *S. zorca* is $\dot{6}$, and the differences in the length of the primaries, indicated by Swainson, appear to be constant.

7. *Athene licua* (Licht.); Verz. Säug. u. Vög., aus dem Kafferlande, p. 12.

8. *Caprimulgus pectoralis*, Vieill.; Levaill. Ois. Af. pl. 49; (*C. rufigena*, Smith, Zool. S. Af. pl. 100.)

9. *Caprimulgus lentiginosus*, Smith, Zool. S. Af. pl. 101.

10. *Caprimulgus damarensis*, Strickland. Size, small. Ground colour of crown and upper parts pale grey, minutely speckled with fuscous; each feather on the crown has a conspicuous medial black streak, broad on the front and occiput, narrower on the hind head; cervical collar fulvous, each feather margined with black dots; feathers of back, rump, and upper tail-covers with a black longitudinal streak about $\frac{1}{20}$th of an inch broad on each; external row of scapulars with a broad pointed medial black streak, their inner margin fulvous, speckled with black, the outer, plain fulvous, contrasting strongly with the black medial stripe; middle and greater covers fuscous, with a large squarish or circular fulvous spot at the tip of the outer web, and some broken bars of fulvous near the base of the same web; primaries with three or four square fulvous spots on the basal two-thirds of their outer webs, separated by equal intervals of fuscous, on their inner webs are three or four larger fulvous spots united at the margins of the web; terminal third of the primaries fuscous, speckled with grey at the tips; secondaries regularly barred with four or five fulvous bars, divided by the black shaft, and separated by equal intervals of fuscous; rectrices pale grey, speckled and barred with fuscous; the medial pair have about nine narrow fuscous bars; these become broader and more numerous externally, so that on the two outer pair they amount to fourteen or fifteen, and the ground colour on these outer remiges is obscure fulvous. Over the eye is a pale superciliary streak; the cheeks dark fulvous, speckled with fuscous, the ear-covers pale fulvous; chin and throat pale fulvous, obscurely barred with fuscous; a nearly white spot on each side of the throat; upper breast grey speckled with fuscous, with a medial fuscous streak on each feather; the feathers of the lower breast have a large subtriangular fulvous patch, surrounded by fuscous; belly pale fulvous, with narrow transverse fuscous bars, three on each feather; vent and lower tail-covers plain pale fulvous.

Total length, $\dot{9}.\ddot{5}$; beak to front, $\ddot{3}$, to gape, $\ddot{9}$; wing, $\dot{6}.\ddot{4}$; medial rectrices, $\dot{4}.\ddot{5}$, external, $\dot{4}.\ddot{4}$; tarsus, $\ddot{7}$, feathered for half its length; middle toe and claw, $\ddot{9}$; outer and inner ditto, $\ddot{5}$.

11. *Hirundo rustica*, Linn. Identical with British specimens.

12. *Platystira pririt* (Vieill.); Levaill. Ois. Af. pl. 161.

13. *Platystira albicauda*, Strickland. Size, large. Front pure white, extending laterally as far as the eyes; crown, lores, and cheeks, deep glossy black; a white spot on the nape surrounded by black; back slaty grey; scapulars black externally, slaty grey within, and obscurely tipped with white; wings black, the margins varied with white; the middle and greater covers next the body pure white; basal third of primaries and the extreme tips of the three first, white; secondaries and tertials black, tipped with white, the four inner secondaries next the tertials, white for one-fourth from the base; rump and upper tail-covers thick and downy, cinereous like the back, each feather with an elongate subterminal tear-like white spot, the extreme tips blackish; tail wholly pure white except an elongate tear-like spot of black on the medial pair, nearly bisected longitudinally by the white shaft. Chin, throat, and sides of neck, pure white, below which is a black pectoral collar; sides of breast cinereous; lower wing-covers black; middle of breast, abdomen, and lower tail-covers, pure white; feathers of the tibiæ white at the tips, black at the base; beak and legs black.

Total length, $\dot{5}.\ddot{3}$; beak to front, $\ddot{6}\frac{1}{2}$, to gape, $\ddot{9}$, wide, $\ddot{2}\frac{1}{2}$, high, $\ddot{2}$; wing, $\dot{3}.\ddot{5}$; medial rectrices, $\dot{1}.\ddot{8}$, external, $\dot{1}.\ddot{7}$; tarsus, $\dot{1}.\ddot{2}$.

This is the largest species of *Platystira* that I have seen. The beak is stronger and more compressed at the sides than in the other species, the tail shorter in proportion, and the first primary longer, being nearly two-thirds the length of the fourth.

14. *Dicrurus divaricatus*, Licht. Agrees with specimens from Kordofan.

15. *Lanius subcoronatus*, Smith; Zool. S. Af. pl. 68.

16. *Lanius collaris*, Linn.; Levaill. Ois. Af. pl. 62.

17. *Lanius minor*, Gm. Differs from specimens from South Europe only in the base of the lower mandible being whitish, and in the rather smaller extent of black on the third pair of lateral rectrices.

18. *Enneoctonus anderssoni*, Strickland. Front, crown, and ear-covers ferruginous; a cream colour streak from the nostrils over the eye; upper parts deep ferruginous, tinged with greyish on the hind neck and rump; remiges pale fuscous, margined with fulvous; tail obscure ferruginous; chin, throat and lower parts very pale cream colour, with a darker shade on the breast; beak horn colour; base of lower mandible pale; legs horn colour.

The specimen before me is not quite adult, and the feathers of the wing-covers, rump and tail, are bordered by a submarginal fuscous band, and those of the breast and flanks have two bars of the same.

Total length, 6̇ . 3̈; beak to front, 5̈, to gape, 7̈½, high, 2̈½; wing, 3̇ . 6̈; medial rectrices, 2̇ . 8̈, external, 2̇ . 7̈; tarsus, 9̈½.

Allied to *E. melanotis* (Val.) of India, but differs in the ferruginous ear-covers, longer wing, shorter tail, &c.

19. *Dryoscopus cubla* (Lath.); Levaill. Ois. Af. pl. 72.

20. *Laniarius atrococcineus* (Burchell); Zool. Journ., vol. i. pl. 18.

21. *Telophonus senegalus* (Linn.); Levaill. Ois. Af. pl. 70.

22. *Nilaus brubru* (Lath.).

23. *Eurocephalus anguitimens*, Smith.

24. *Turdus strepitans*, Smith.

25. *Pycnonotus capensis* (Levaill.), Ois. Af. pl. 105.

26. *Crateropus bicolor*, junior. Differs from the adult in having the front, eyebrows and cheeks hoary brownish-white; crown and upper parts umber brown, palest on the crown and rump, which last may almost be termed dirty white; wings and tail deep umber brown; remiges margined internally with fulvous; throat white; feathers of breast pale greyish-brown, broadly margined with white; sides and lower wing-covers pale fulvous; belly, vent, and lower tail-covers whitish; beak black; legs horn colour.

Total length, 9̇ . 5̈ ; beak to front, 9̈, to gape, 1̇ . 1̈ ; wing, 4̇ . 8 ; all the rectrices, 4̇ ; tarsus, 1̇ . 3̈.

Gonys straight ; commissure and culmen considerably decurved.

Allied to *Crateropus leucocephalus* (Rüpp.), but differs in not having the whole head white, the fulvous colour of the flanks, &c.

27. *Saxicola leucomelæna*, Burchell, Travels in S. Africa, vol. i. p. 335. This bird precisely agrees with Mr. Burchell's description, except that he makes no mention of the white which occupies three-fourths of the length from the base of the four external pairs of rectrices. Mr. Gray refers *S. leucomelæna* of Burchell to *S. cursoria*, Vieill.; Levaill. Ois. Af. pl. 90, but that differs in its larger size, black abdomen, &c. It is however possible, that the bird before us may be an immature state of *S. monticola*, Vieill., such as is represented in Levaillant, Ois. Af. pl. 185, f. 2. The entire crown and hind neck is white, with a faint brownish tinge ; the lesser and medial wing-covers, upper tail-covers, abdomen, and four outer pair of rectrices, except the tips, also the basal portion of the outer web of the fifth pair, pure white ; lower tail-covers black, tipped with white ; rest of the bird deep black.

28. *Saxicola hottentotta* (Gm.) ; (*Sylvia pileata*, Lath. ; *Œnanthe imitatrix*, Vieill. ; Levaill. Ois. Af. pl. 181.) There seems no doubt that this is the "Grand Motteux du Cap de Bonne-espérance" of Buffon, on which Gmelin founded his *Sylvia hottentotta ;* though Buffon erroneously states it to be 8̇ long. A specimen which has long been in my collection measures 7̇ in total length, and the wing 4̇. Mr. Andersson's specimen from Damara is still smaller, being only about 6̇ . 3̈ long, and the wing 3̇ . 4̈. Its colouration however is identical with that of the larger specimen.

29. *Saxicola.* Light fulvous brown above, pale cream colour beneath ; wing and tail-feathers fuscous, margined with fulvous ; beak horn colour ; legs black.

Total length, 7̇ . 3̈ ; beak to front, 5̈½, to gape, 8̈, high, 2̈ ; wing, 4̇ . 4̈ ; all the rectrices, 3̇ . 1̈ ; tarsus, 1̇.

This is probably a ♀ or immature, and I do not at present venture to name it. It approaches *S. pallida* of Rüppell, Atl. Nord. Af. pl. 34, f. *a*, but has a much stouter beak, darker tail, &c.

30. *Monticola brevipes*, Waterhouse, in Alexander's Exped. Int. Af. vol. ii. p. 263. Front and crown hoary white; lores blackish; chin, throat, ear-covers, upper back and wing-covers, deep slaty grey; remiges blackish, narrowly margined with whitish; breast, abdomen, lower wing-covers, rump, upper and under tail-covers, and tail, bright ferruginous; beak and legs blackish.

N.B.—The two medial rectrices are wanting in my specimen, but probably are more or less marked with fuscous, as in other species.

Total length, 6̇ . 8̈; beak to front, 7½, to gape, 9̈; wing, 4̇ . 2̈; tail, 2̇ . 9̈; tarsus, 1̇.

♀ Above greyish fuscous, wing-feathers margined with pale brown; rump and upper tail-covers ferruginous; tail deep ferruginous chestnut, the middle pair of rectrices fuscous, the rest fuscous on the outer webs near the tips; feathers of cheeks, chin and throat whitish, margined with fuscous; lower parts ferruginous, feathers of breast with a subterminal fuscous bar on each; wing only 3̇ . 8̈.

I adopt Boie's original name *Monticola*, given in 1822 for this genus, because I know no reason for changing it to *Petrocossyphus* or *Petrocincla*.

31. *Erythropygia galtoni*, Strickland. This bird agrees with a specimen in Sir W. Jardine's collection, procured by Dr. A. Smith, except in being of a rather paler tinge above and below. This latter specimen is labelled "*Saxicola familiaris*," a name founded on the "Tracquet familier" of Levaillant, Ois. Af. pl. 183. But the latter is described as having the outer webs of the lateral rectrices fringed with rufous, whereas in the present bird the whole of the rectrices except the middle pair are rufous, tipped with brown for about 4̈. The upper parts are light fulvous brown; wing-covers and remiges fuscous, narrowly margined with whitish-brown; whole lower parts pale cream colour; rump, upper tail-covers and tail deep rufous; medial rectrices fuscous, rufous at the base, the rest tipped with fuscous.

Total length, 6̇; beak to front, 5̈, to base, 7̈; wing, 3̇ . 4̈; medial rectrices, 2̇ . 8̈, external, 2̇ . 7̈; tarsus, 1̇.

32. *Drymœca* (commonly misspelled *Drymoica*) *levaillanti*, Smith, Zool. S. Af. pl. 73. In reference to this species I may mention,

that the *Cisticola* (misspelled *Cysticola*) *campestris* of Gould, afterwards named by him *C. magna*, and figured in his Birds of Australia, vol. iii. pl. 41, is evidently identical with the South African *Drymœca levaillanti*. Mr. Gould's figure was taken from a specimen which has been for many years in my own possession, the locality of which was unknown, but which being stuffed with wool, as is frequent in specimens from Australia, I conjectured to be from that country. Mr. Gould accordingly figured it as a new species in his Birds of Australia. The occurrence of a specimen in the Damara collection has enabled me to detect this error.

Mr. Gould's specific name *campestris* was given in 1845, and must therefore yield to *levaillanti*, Smith, 1842.

33. *Drymœca flavicans*, Vieill.; Levaill. Ois. Af. pl. 127.

34. *Drymœca flavida*, Strickland. Front, crown and cheeks, pale cinereous; back and wings yellowish-olive; remiges fuscous, margined with clear olive yellow; rectrices olive, margined with olive yellow, and tipped with pale yellow, the external pair wholly pale yellow; chin whitish; throat and breast pure pale yellow; belly silvery white; sides, under wing-covers and under tail-covers pale yellow; beak horn colour; base of lower mandible pale; legs pale brown.

Total length, $\dot{4}.\ddot{2}$; beak to front, $\ddot{4}$, to gape, $\ddot{5}$, high, $\ddot{1}$, broad, $\ddot{1}\frac{1}{2}$; wing, $\dot{2}$; medial rectrices, $\dot{1}.\ddot{6}$, external, $\dot{1}.\ddot{2}$; tarsus, $\ddot{8}$.

The cuneate tail and form of beak refer this little bird to the vicinity of *Drymœca* or *Prinia*, though the coloration is more like that of *Phylloscopus*. It seems allied to the "*Malurus pulchellus*" of Rüppell, Atl. Nord. Af. pl. 35, *f. a.*, but that has a longer tail, tipped with white, and otherwise differs.

35. *Sylvietta brachyura*, Lafr. Rev. Zool. 1839, p. 258.

36. *Sphenœacus pycnopygius*, Sclater. D. capite et dorso superiore nigro brunneoque striatis: lineâ utrinque à rostro super oculum, gulâ et pectore albis; maculis crebris in pectore nigris; ventre toto, crisso, tibiis et tectricibus caudæ superioribus et inferioribus rufo-brunneis; alis caudâque nigricantibus, illis brunneo limbatis; hujus rectricibus lateralibus pallidè brunneo terminatis; mandibulâ inferiore albâ, superiore nigrâ; pedibus brunneis.

Total length, 6̇.8̈; beak to front, 6̈½, to gape, 8̈; wing, 2̇.9̈; medial rectrices, 3̇, external, 2̇.6̈; tarsus, 1̇.—(P. L. Sclater.)

Allied to *Sphenœacus africanus* (Gm.), but differs in the longer beak, shorter tail, broader and more developed webs of the rectrices, &c.

37. *Parisoma subcœruleum* (Vieill.); Levaill. Ois. Af. pl. 126; (*Parisoma rufiventer*, Swainson). This bird evidently belongs to the *Sylviinæ*, not to the *Parinæ*, and is closely allied to *Curruca*.

38. *Ægithalus smithi*, Jard.

39. *Parus cinerascens*, Vieill.; Levaill. Ois. Af. pl. 138.

40. *Juida australis* (Smith), Zool. S. Af. pl. 47. (*Lamprotornis burchelli*, Smith.)

41. *Spreo nabouroup* (Daud.); Levaill. Ois. Af. pl. 91. (*Lamprotornis fulvipennis*, Swains.).

42. *Spreo bispecularis*, Strickland; Levaill. Ois. Af. pl. 90. Whole plumage glossy bluish-green; head, rump and tail, with a purplish tinge when held *towards* the light; lesser wing-covers violet-purple, with a coppery gloss towards their tips; middle and greater covers greenish, with a small indistinct velvety-black spot at their tips; primary covers violet purple, but without any coppery gloss.

Total length, 8̇; beak to front, 8̈, to gape, 1̇.1̈, high, 2̈½; the gonys nearly straight; wing, 5̇; medial rectrices, 3̇.3̈, external, 3̇.1̈; tarsus, 1̇.5̈.

Closely allied to the true *Spreo nitens* (Linn.) of Angola (*Merula viridis angolensis* of Brisson), of which I possess a specimen, but differs in the more slender beak, and in the primary covers being purple instead of greenish like the rest of the wing. Sir William Jardine has some specimens from Southern Africa, in which the beak is intermediate between the Damara bird and the true *nitens*.

43. *Dilophus carunculatus* (Gm.).

44. *Buphaga africana*, Gm.

45. *Textor niger* (Smith), Zool. S. Af. pl. 64 ; (*Textor erythrorhynchus*, Smith.)

46. *Vidua regia.*

47. *Plocepasser mahali*, Smith, Zool. S. Af. pl. 65 ; (*Leucophrys pileatus*, Swains.).

48. *Ploceus abyssinicus*, Gm.; Smith, Zool. S. Af. pl. 7 ; (*Euplectes taha*, Smith.)

49. *Ploceus sanguinirostris* (Linn.).

50. *Philetærus squamifrons* (Smith), Zool. S. Af. pl. 95.

51. *Estrilda granatina* (Linn.).

52. *Estrilda lipiniana*, Smith, Report Exped. S. Af. p. 49.

53. *Estrilda astrild* (Linn.). The specimen from Damara is rather paler on the upper parts and tail than specimens in Sir William Jardine's collection from S. Africa, and in my own from Mauritius.

54. *Pytelia melba* (Linn.); Edw. Birds, pl. 128; Buff. pl. Enl. 203, *f.* 1 ; Vieill. Ois. Chant. pl. 25 ; *Fringilla elegans*, Gm.; *Fringilla speciosa*, Boddaert.

There has been much confusion between this species, which seems to inhabit Southern and South-Western Africa, and the species figured by Edwards, pl. 272, lower figure, from Abyssinia, Kordofan, and Senegal. The present bird is evidently the same as plate 128 of Edwards, upon which Linnæus, in his 10th edition of the Systema Naturæ, founded his *Fringilla melba*, though afterwards Brisson, and Linnæus himself in his 12th edition, united with it Edwards's pl. 272, lower figure, an error followed by most succeeding authors. The first author who in modern times has distinguished these two species is I believe the Prince of Canino, in his Conspectus Generum Avium, p. 461, where he gives their respective diagnoses, but erroneously assigns the specific name *melba* to the species of Edwards's plate 272. The latter species in fact requires a new name, and I propose to term it *Pytelia citerior*, in allusion to its less distant habitat.

The *P. melba*, as above indicated, is distinguished by having the front (not including the eyes), chin, and whole of the throat deep scarlet, breast yellowish-olive, crown, cheeks, and nape, deep cinereous, belly and sides fuscous, barred and spotted with white, each feather having two medial white bars and two subterminal transversely ovate white spots, separated by fuscous bars nearly equal in breadth to the white ones; lower tail-covers cream colour; back and wings yellowish-olive; upper tail-covers brick-red; rectrices fuscous, margined externally with brick-red; beak reddish; legs pale brown.

The *P. citerior*, Strickland (Edw. Birds, pl. 272 f. inf., *Estrilda elegans*, Rüppell, and *Pytelia elegans* of my list of Kordofan birds in Proc. Zool. Soc. 1850, p. 218), differs in having the front (including the eye), forepart of cheeks, and chin, scarlet; throat and breast light yellow; crown and hind neck pale cinereous; belly and sides white, with narrow bars of pale brown, three or four on each feather; lower tail-covers white; back, wings, rump, tail, beak, and legs, as in *P. melba*.

55. *Colius erythropus*, Gm.; (*C. leuconotus*, Lath.).

56. *Colius macrurus* (Linn.); (*C. senegalensis*, Gm.).

57. *Crithagra.* Brown, streaked with deep fuscous above, dirty white below.

Length, $\dot{4}.\ddot{4}$; wing, $\dot{2}.\ddot{7}$; beak and legs pale. Probably a ♀, but is identical with a specimen in my collection from Kordofan.

58. *Fringillaria capensis* (Linn.); Buff. Pl. Enl. 158, f. 2; (*Fringilla nævia*, Gm.; *Fringillaria vittata*, Swains.).

59. *Alauda erythrochlamys*, Strickland. Whole upper parts and wings nearly uniform ferruginous, becoming paler on the upper tail-covers and medial pair of rectrices. All the wing-feathers narrowly margined with pale cream colour externally; the remiges light fuscous on their shafts and inner webs. A streak above and

a spot below the eye pale cream colour; ear-covers pale rufous; chin white; breast and lower parts pale cream colour; beak long, gonys nearly straight, flesh-coloured; legs apparently flesh coloured; hind claw short, straight.

Total length, 6̇.5̈; beak to front, 7̈, to gape, 8̈, high, 2̈; wing, 3̇.7̈; rectrices, 2̇.8̈; tarsus, 1̇.1̈; hind claw, 2̈¼.

A well-marked species, leading, by its lengthened beak, to *Certhialauda*. The *A. ferruginea* of Lafresnaye approaches it in colouration, but is said to have the beak shorter than *A. calandra*, the breast streaked with black, &c.

60. *Alauda spleniata*, Strickland. Lores and superciliary streak whitish; front and crown chestnut; feathers of back and wing-covers fuscous in the middle, broadly margined with pale greyish-brown; margins of the greater covers and tertials nearly white; remiges light fuscous, narrowly margined externally with a pale impure rufous tinge; their tips and inner webs narrowly margined with whitish; upper tail-covers pale chestnut, tipped with whitish; rectrices deep fuscous, narrowly margined externally and slightly tipped with white, outer webs of the external pair wholly white; ear-covers light brown; cheeks, chin, throat, and lower parts whitish; a faint brownish tinge on the middle, and a large chestnut patch on each side of the breast; beak subconical, the margin nearly straight, the gonys slightly curved upwards, the culmen rather more curved downwards, the tip brownish, the base flesh colour; tarsi flesh colour; toes and claws brownish, hind toe short, slightly curved.

Total length, 6̇; beak to front, 4̈½, to gape, 6̈, high, 2̈, wide, 2̈; wing, 3̇.5̈; medial rectrices, 2̇.4̈, external, 2̇.1̈; tarsus, 8̈; hind claw, 3̈.

Allied to *A. ruficeps*, Rüppell, Neue Wirbelthiere, pl. 38, f. 1, but that has a black not a rufous patch on each side of the breast. Specimens of this bird were collected in S. Africa by Dr. Smith, and labelled by him "*Alauda ruficapilla*," which is Stephens's name for the "Calotte Rousse" of Levaillant, Ois. Af. pl. 198 (*A. rufipileus*, Vieill.), a very distinct species.

61. *Alauda nævia*, Strickland. Crown greyish-brown, back of neck paler, back and wing-covers fulvous—the feathers of all these

parts with a broad, distinct, longitudinal fuscous streak on each; remiges fuscous, margined externally and internally towards the base with pale fulvous; upper tail-covers rufo-fulvous; rectrices deep fuscous, the middle and external pairs broadly, the rest narrowly, margined with fulvous; a whitish streak above and below the eye; cheeks and ear-covers light brown; chin whitish; breast pale cream colour, with a small longitudinal fuscous streak on each feather; belly and vent pale cream colour; beak corneous, paler towards the base; margin nearly straight, gonys curved upwards, and culmen equally so downwards; feet and claws flesh-coloured, tinged with light brown; hind claw short, slightly curved.

Total length, 6̇; beak, to front, 6̈, to gape, 7̈, high, 2̈½, broad, 2̈½; wing, 3̇.4̈; all the rectrices, 2̇.3̈; tarsus, 9̈; hind claw, 3̈.

62. *Nectarinia anderssoni*, Strickland. Head, back and lesser wing-covers metallic green, the crown with a coppery gloss; upper tail-covers bluish-green; rectrices black, margined with bluish-green; greater wing-covers and remiges deep fuscous, margined externally with greyish-brown; chin bluish-green; cheeks and throat bright coppery green; a broad zone on the breast of violet purple, followed by a narrow one of dull greyish-brown; axillary tufts gamboge yellow; abdomen, sides and lower tail-covers, dirty white; beak and legs black.

Total length, 4̇.3̈; wing, 2̇.3̈; medial rectrices, 1̇.6̈, external, 1̇.5̈; tarsus, 7̈.

Not unlike the East African species which I lately described as *N. albiventris* (p. 42, *suprà*), but has a longer wing, no orange on the axillary tuft, &c. My specimen has lost the extremity of the beak, so that I cannot assign its dimensions.

63. *Nectarinia fusca* (Vieill.); Levaill. Ois. Af. pl. 296.

64. *Nectarinia senegalensis* (Linn.); Levaill. Ois. Af. pl. 295, f. 2.

65. *Nectarinia bifasciata* (Shaw.)

66. *Halcyon damarensis*, Strickland. Plate . Crown and wing-covers greyish-brown, streaked with black; upper back and scapulars sooty brown; lower back and upper tail-covers vivid blue;

remiges fuscous, margined externally with blue; primaries white at the base on both, secondaries on the inner, webs; tail bluish; chin white; cheeks, hind neck, breast and belly yellowish-white, with a black line down the centre of each feather; beak fuscous, base of lower mandible red; feet brown.

Total length, $\dot{7}.\ddot{3}$; beak to front, $\dot{1}.\ddot{3}$, to gape, $\dot{1}.\ddot{6}$; wing, $\dot{3}.\ddot{5}$; rectrices, $\dot{2}.\ddot{2}$; tarsus, $\ddot{5}$.

Almost identical in colouring with *H. chelicuti*, Stanley (*Alcedo striolata*, Licht.; *Dacelo pygmæus*, Rüpp.), from Abyssinia and Senegal, but much larger in size. A specimen of the present bird in the British Museum is erroneously labelled "*A. striolata*," which name, as defined by Lichtenstein, refers to the smaller species.

67. *Coracias caudata*, Linn.

68. *Melittophagus hirundineus* (Licht.); (*Merops furcatus*, Stanley; *M. taiva*, Cuv.; *M. hirundinaceus*, Swains.; *M. chrysolæmus*, Jard., Ill. Orn. ser. i. pl. 99).

69. *Irrisor erythrorhyncus* (Lath.)?

The Damara specimen has the beak $\dot{2}.\ddot{2}$ long to the gape, considerably curved, and red, as in specimens from the Cape. But the white band on the primaries is broad, as in *I. senegalensis*, the shaft being nearly white, and extends over both webs of the fourth to the tenth primary; while in the Cape bird the band is narrow, commencing on the outer web with the fifth primary, and is distinctly divided by the black shaft. Another distinction is also pointed out at p. 58 *suprà*, in the greater extent of white at the tips of the *primary covers* (not the *bastard wing*, as inadvertently stated) in the Senegal than in the Cape species. In this respect also the present specimen agrees with the West African, and not with the South African species. The Damara bird thus approaches in plumage the *red-beaked* specimens of *I. senegalensis* from Kordofan, described by me in Proc. Zool. Soc. part xviii. p. 216, but in these the beak is short and nearly straight, as in the *black-beaked* specimens from Senegal. Whether these variations indicate a plurality of ill-defined species, or a single but very variable one, must be decided by future inquiry. Sir W. Jardine (p. 58 *suprà*) considers the colour of the beak to depend on age or season, but I am not aware that any *red-beaked* specimens have ever been brought from Senegal.

70. *Rhinopomastus cyanomelas* (Vieill.), Zool. Journ. vol. iv. pl. 1; (*Upupa purpurea*, Burchell; *Rhinopomastus smithi*, Jardine.)

71. *Upupa minor*, Shaw.

72. *Buceros nasutus*, Linn.; Levaill. Ois. Af. pl. 236. This is clearly the same species as Levaillant's bird, though it differs in possessing an elevated casque, with a sharp though obtuse-angled keel along its ridge. This casque is about $\ddot{2}$ high, and extends to within $\dot{1}.\ddot{2}$ of the tip of the beak, its anterior extremity being abruptly truncated. Levaillant's bird had no casque, being probably immature.

73. *Pogonius leucomelas* (Bodd.); Buff. Pl. Enl. 688, f. 1; (*Bucco niger*, Gm.; *Trogon luzoniensis*, Scop.; *Pogonius stephensi*, Leach.).

74. *Dendrobates namaquus* (Licht.); Levaill. Ois. Af. pl. 251; (*Picus mystaceus*, Vieill.; *P. diophrys*, Stephens; *P. biarmicus*, Wagl.).

75. *Dendrobates fuscescens*, Vieill.; Levaill. Ois. Af. pl. 253; (*Picus fulviscapus*, Licht.; *Colaptes capensis*, Steph.; *P. chrysopterus*, Less.).

76. *Campethera capricorni*, Strickland. ♂ Front, crown, and a broad streak from the base of the lower mandible along each side of the chin crimson; a broad streak of white from the nostrils, under the eye, and across the ear-covers; hind neck, back, scapulars and tertials, olive brown, with two or three $\overset{''}{\tfrac{1}{4}}$ wide bars of yellowish-white on each feather (five or six bars on the tertials); wing-covers similar, but barred on the outer webs only, and with a small roundish terminal spot of whitish; remiges blackish internally, yellowish-olive externally; the shafts golden yellow, the outer webs with five or six marginal spots of yellowish-white, the inner with as many but larger; rump and upper tail-covers yellowish-white, each feather with a subterminal black heart-shaped spot, and two or three medial

transverse interrupted black bars; tail fulvous brown, with six or seven pale fulvous bars, the shafts golden yellow, the tips black; chin and throat white; breast, belly, and lower tail-covers yellowish-white, middle of belly plain; the other parts with a longitudinally ovate tear-like black spot on each feather, those on the breast largest, and about $\ddot{1}$ in diameter; beak and feet horn colour.

Total length, $\dot{8}.\ddot{5}$; beak to front, $\dot{1}.\ddot{1}$, to gape, $\dot{1}.\ddot{3}$; nasal ridge, $\ddot{\tfrac{1}{4}}$ distant from culmen; wing, $\dot{4}.\ddot{9}$; medial rectrices, $\dot{3}$, external, $\dot{2}.\ddot{3}$; tarsus, $\dot{1}$.

Near *C. benneti* (Smith)—(*Picus guttatus*, Licht.; *C. variolosa*, Gray)—but differs in having a stouter beak, smaller spots on the breast, and the rump *spotted* instead of *barred*.

77. *Campethera abingoni*, Smith; (*C. smithi*, Malherbe, Rev. Zool. 1845, p. 403). ♀ Feathers of front and crown blackish, with a round white spot on each; hind head crimson; back and wings olive, barred and spotted with yellowish-white; rump barred fuscous and greenish-white; remiges fuscous, spotted on both shafts with whitish, the shafts golden yellow; rectrices similar, but the marginal spots are obscurely fulvous; ear-covers and stripe down sides of neck white; chin, throat, and upper breast brownish-black, with a subterminal roundish white spot, and sometimes a second medial one on each feather; lower parts yellowish-white, with a conspicuous longitudinal streak of black on each feather, broadest on the breast, becoming transverse and heart-shaped on the thighs and vent; beak and legs horn colour.

Total length, $\dot{7}.\ddot{5}$; beak to front, $\dot{1}.\ddot{1}$, to gape, $\dot{1}.\ddot{3}$; nasal ridge nearly $\ddot{1}$ distant from culmen; wing, $\dot{4}.\ddot{7}$; tail, $\dot{2}.\ddot{5}$; tarsus, $\ddot{8}$.

78. *Pæocephalus meyeri* (Rüpp.), Atl. Nord. Af. pl. 11.

79. *Pæocephalus rüppelli* (Gray), Proc. Zool. Soc. ♂ Olive brown; lesser wing-covers, lower wing-covers and tibiæ, yellow; rump, lower belly, upper and lower tail-covers blue. ♀ like the ♂, but wanting the blue colour.

Total length, $\dot{8}$; wing, $\dot{5}.\ddot{7}$.

80. *Agapornis roseicollis*, Vieill.; St. Hil. Perroqu. pl. 91.

81. *Columba guinea*, Linn.; Levaill. Ois. Af. pl. 265.

82. *Turtur vinaceus* (Gm.); Levaill. Ois. Af. pl. 268.

83. *Peristera afra* (Linn.); Levaill. Ois. Af. pl. 271.

84. *Steganura paradisea.*

85. *Francolinus swainsoni,* Smith, Zool. S. Af. pl. 12.

86. *Francolinus gariepensis,* Smith, Zool. S. Af. pl. 83, 84.

87. *Pterocles variegatus,* Burchell; Smith, Zool. S. Af. pl. 10.

88. *Pterocles bicinctus,* Tem.; Pig. et Gall. v. iii. pp. 247, 713. There has been much confusion in ornithological works between various African and Indian species of *Pterocles,* to which the specific names *bicinctus, tricinctus,* and *quadricinctus* have been given. In the proceedings of the Zoological Society, part xviii., p. 220, I have pointed out the distinctions between the true *P. quadricinctus,* Tem., of Africa (*P. tricinctus* of Swainson), and the *P. fasciatus* (Scop.) of India, erroneously named *P. quadricinctus* by Indian ornithologists. Mr. Andersson's collection has now enabled me further to clear up the subject, by affording specimens of the *P. bicinctus,* Tem. (to which Mr. Gray erroneously referred the *P. tricinctus* of Swainson). This rare species, first discovered by Levaillant in the Namaqua country, has never been figured. Though closely resembling the *P. quadricinctus* of Senegal and Kordofan in the colours of its head and under parts, it is at once distinguished by the absence of the black stripes on the back and wings, the feathers on those parts being of a greyish-brown, with a terminal subtriangular white spot. It also wants the chestnut band on the breast, but possesses a very distinct band of white, succeeded by one of black, between the fulvous colour of the breast and the finely rayed black and white of the abdomen.

I may add that this, the *P. bicinctus* of Temminck, is not the *P. bicinctus* of Lichtenstein, the latter being the *P. lichtensteini* of Wagler and other authors.

89. *Coturnix dactylisonans,* Meyer? Plumage darker than European and Indian specimens, and of a deeper rufous on the cheeks and breast.

90. *Turnix lepurana*, Smith, Zool. S. Af. pl. 16. My specimen has the breast bright rufous, in which respect it agrees with the "pectore nitidè rufo" of Smith's Latin diagnosis, but not with the "pale Dutch orange" of his description, nor with the faint yellowish tinge of his figure.

91. *Otis ruficrista*, Smith, Zool. S. Af. pl. 4.

92. *Squatarola helvetica* (Linn.).

93. *Charadrius hiaticula*, Linn.

94. *Charadrius damarensis*, Strickland. Crown, nape, ear-covers, back and wings uniform "hair brown" (of Syme's Nomenclature), paler on the rump and upper tail-covers; a dark fuscous mark at the anterior and lower margins of orbits; front, broad superciliary streak, cheeks, chin and throat dirty white; breast, pale brown, the shafts darker; belly, axillary feathers, vent and lower tail-covers white; primaries fuscous, darkest at the tips, the shafts white in the medial portions, the sixth to the ninth white at the base of the outer web; secondaries pale fuscous; rectrices pale fuscous, darker towards the tips, which are margined with white; outer pair narrow, margined externally with white; beak black; legs dark brown; acrotarsia scutate.

Total length, $\dot{8}$; beak to front, $\ddot{8}$, to anterior termination of nasal groove, $\ddot{4}$, to gape, $\dot{1}$; wing, $\dot{5}.\ddot{3}$; medial rectrices, $\dot{2}.\ddot{3}$; external, $\dot{2}.\ddot{1}$; naked part of tibia, $\ddot{7}$; tarsus, $\dot{1}.\ddot{5}$.

95. *Charadrius pallidus*, Strickland. Crown and upper parts pale greyish-brown, darker on rump; front, supercilium, cheeks, and cervical collar white; ear-covers pale brown; greater wing-covers tipped with whitish; primaries fuscous, darkest at tips, shafts medially white; the 5th to the 9th white at base of outer web; secondaries tipped with white; all the remiges margined internally with white; medial pair of rectrices deep fuscous, the two next pairs paler, margined with white; the three outer pairs pure white; whole lower parts pure white; beak and legs black.

Total length, $\dot{6}$; beak to front, $\ddot{5}$, to gape, $\ddot{6}\frac{1}{2}$; wing, $\dot{4}$; medial rectrices, $\dot{1}.\ddot{6}$, external, $\dot{1}.\ddot{5}$; tarsus, $\dot{1}.\ddot{2}$.

96. *Charadrius nivifrons*, Less. Agrees with Pucheran's description, Rev. Zool. 1851, p. 280, except in the isabelline or cream coloured tinge on the lower parts, probably the breeding dress. Differs from *C. varius*, Vieill., *C. pecuarius*, Licht., in the larger patch of white on the front, the absence of the black patch on the side of the neck, the fulvous tinge of the upper parts, the pale brown (not black) rump, &c. Resembles *C. alexandrinus*, Linn. (*C. cantianus*, Lath.), but differs in having an isabelline tinge on the breast and belly, and in having the three proximal secondaries (next the tertials) pure white, instead of pale grey with white margins.

Total length, $\dot{7}$; beak to front, $\ddot{6}\frac{1}{2}$, to gape, $\ddot{8}$; wing, $\dot{4}.\ddot{1}$; medial rectrices, $\dot{2}.\ddot{3}$, external, $\dot{2}.\ddot{1}$; tarsus, $\dot{1}.\ddot{\frac{1}{2}}$.

97. *Hoplopterus coronatus* (Gm.) Pl. Enl. 800.

98. *Machetes pugnax* (Linn.).

99. *Pelidna subarquata* (Gm.). The Damara specimen is remarkable for the shortness of its beak, which only measures $\dot{1}.\ddot{3}$ to the front, while specimens from Kordofan and various parts of Europe measure $\dot{1}.\ddot{6}$.

100. *Pelidna minuta*, Leisler; Gould, Birds Europe, pl. 332.

101. *Glottis canescens* (Gm.).

102. *Totanus glareola* (Linn.).

103. *Rhynchæa capensis* (Linn.).

104. *Himantopus melanopterus*, Meyer.

105. *Strepsilas interpres* (Linn.).

106. *Ciconia* —— ?

Atra, viridescens; dorso imo cum ventre toto albis.—(P. L. Sclater.)

107. *Phœnicopterus minor*, Geoff.

108. *Nyroca brunnea*, Eyton, Monog. Anat. pl. 23.

109. *Podiceps minor* (Linn.).

110. *Xema phæocephala*, Swainson. Swainson calls this species *pæocephala* (misspelled by him *poiocephala*), a name which would imply green-head, not grey-headed. He no doubt meant to have written *phæocephala*, and I have altered the name accordingly.

Differs from *X. brunneicapillum* of India, in having the white at the base of the remiges confined to the *outer* web.

111. *Sternula balænarum*, Strickland. Front, round the eyes and crown black; back, wings and tail very pale grey; primaries hoary fuscous, shafts and inner margins white: beak black; legs brownish flesh colour.

Total length, $\dot{8}.\ddot{5}$; beak to front, $\dot{1}.\ddot{2}$, to gape, $\dot{1}.\ddot{4}$; wing, $\dot{6}.\ddot{6}$; dial rectrices, $\dot{1}.\ddot{8}$, external, $\dot{2}.\ddot{4}$; tarsus, $\ddot{6}$.

Remarkable for the shortness of its tarsus.

ON

BUCEROS CULTRATUS,

A NEW SPECIES FROM SIERRA LEONE

BY

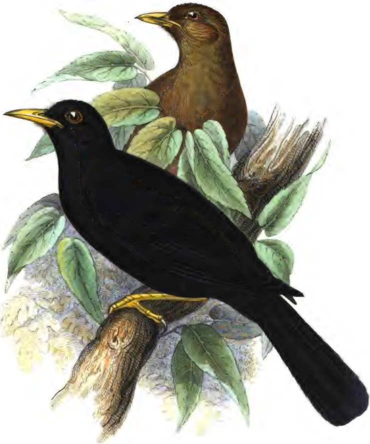
PROFESSOR CARL SUNDEVALL.

(IN the "öfversigt af Kongl. Vetenskaps-akademiens Förhandlingar" for 1849, p. 156, is a valuable notice by Professor Sundevall the birds, twenty-three in number, procured in 1790 by Afzeliu at Sierra Leone, and which are still preserved in the Museum of Upsala. One of these Professor Sundevall describes as new, and as in a recent letter to myself he communicates some additional observations respecting it, together with a drawing of the specimen, I have thought it deserving of a place in the "Contributions."—H. E. STRICKLAND.)

Professor Sundevall's original description is as follows—"*Buceros cultratus,* n. sp.—Niger, capite comoso, colloque fulvo-albidis; rostro mutico (albo) lævi, culmine tereti, anticè compresso. Avis magna et speciosa è Sierra Leona allata. Circiter 30-pollicaris; rostrum ab angulo, 110 mm.; ala, 360; cauda, 310; tarsus, 48. Rostrum (siccatum) album, sat crassum, culmine æquè arcuato, absque incisurâ vel prominentiâ. Tomia integra. Nares longius ante oculos, in sinu baseos rostri sitæ. Carinula obtusa, suprà nares incepta, ante apicem rostri evanescit. Maxilla inferior lævis, gnathidiis basi deorsùm obliquè rotundatis. Plumæ capitis longæ, laxæ, pâullùm adscendentes, pulchrè lacero-decompositæ, fulvescentes, in occipite longiùs dependentes. Caput et collum fulvo-albida. Pectus, usque ad pedes, maculatum; plumis nigris, pallido limbatis. Cauda rotundata. Rectrices laterales, utrinque 3, totæ albæ; 4ta basi ad medium nigra, dein alba, limite coloris angulato; 2 mediæ totæ nigræ. Alæ et dorsum tota nigra. Pennæ primariæ pollicem circiter excedunt cubitales; nulla angustata; proportio ut in omnibus. Pedes fusco-pallescentes apparent. Tarsi posticè et lateribus crebrè reticulati, scutis anticis minùs latis. Digiti ut in congeneribus; medius tarso longior."

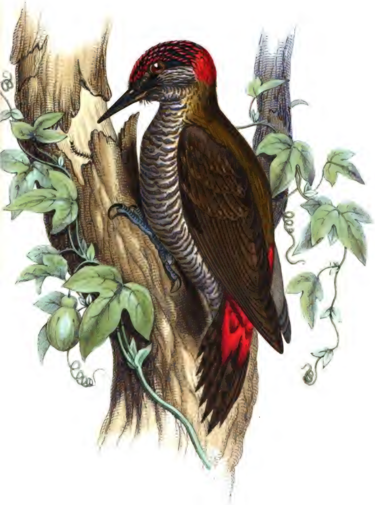
Professor Sundevall's later observations, translated from his letter of July 20, 1852, are as follows—"In a recent visit to Upsala, I examined this bird somewhat more closely, and found that the sides of the neck are in fact naturally bare, but obliquely traversed by a stripe of feathers. I at first thought that the feathers had been denuded by some external agent, such as insects, or by the application of preservative ointments. The skin is in fact in very indifferent condition and badly stuffed. This bareness on the neck was accordingly omitted in my former description, which however was an error. Should you have an opportunity of publishing this rectification, it may prevent some writer or other from establishing a useless synonyme, as it is probable that this bird may also occur in the rich collections of Britain. I regret also to say, that the colour of the crest is erroneously described as *fulvo albidus*, it is more properly *pallidè lætè rufus*, which I was not aware of on the former occasion, as I could not conveniently clear these fine feathers from dust and dirt. I may therefore be excused for such an error in the description of an old damaged specimen which was neglected and dirtied."

In a note appended to the figure, it is added—"Verisimiliter avis non plenè adulta, lateribus colli ex parte mentoque plumosis. Facies cum plagâ gutturali magnâ, et plagâ ad latera cervicis verè nudis. In medio jugulo adest plica, palear parvum simulans, cujus verò forma hodiè ob statum cutis pejorem, non benè distingui potest."



Turdus Xanthoscelus

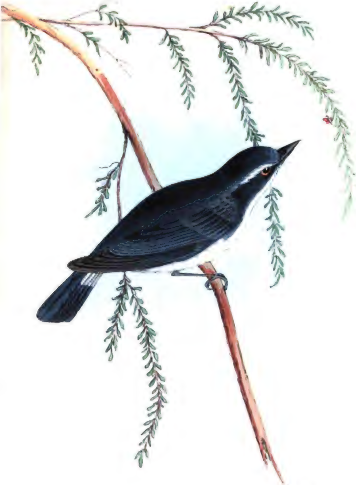
2



Chrysoptilus Kirkii. n.s.

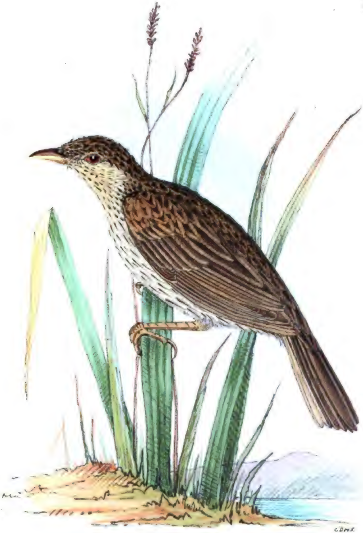
Mal. Pl. 47.

8
3



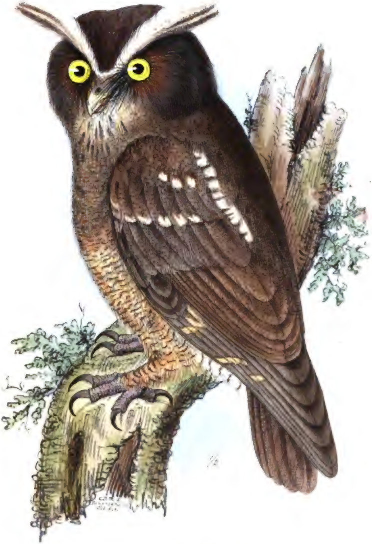
Muscicapa leucomelanura Hodgs.

[illegible]

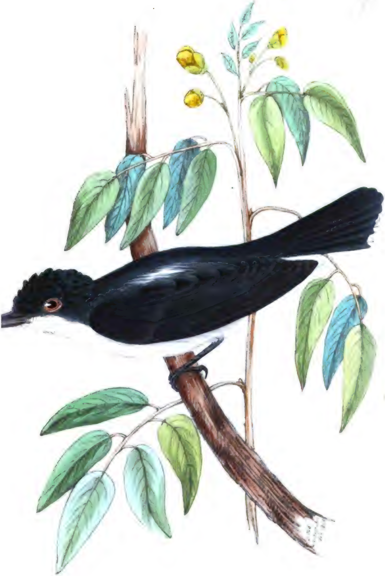


Heterura sylvana. Hodgs.

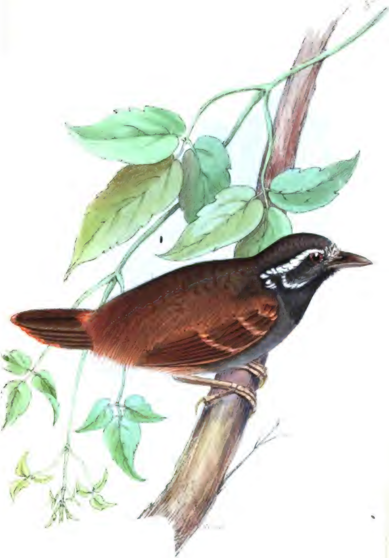
June 1848



Scops cristata (Daud.) var.
1848

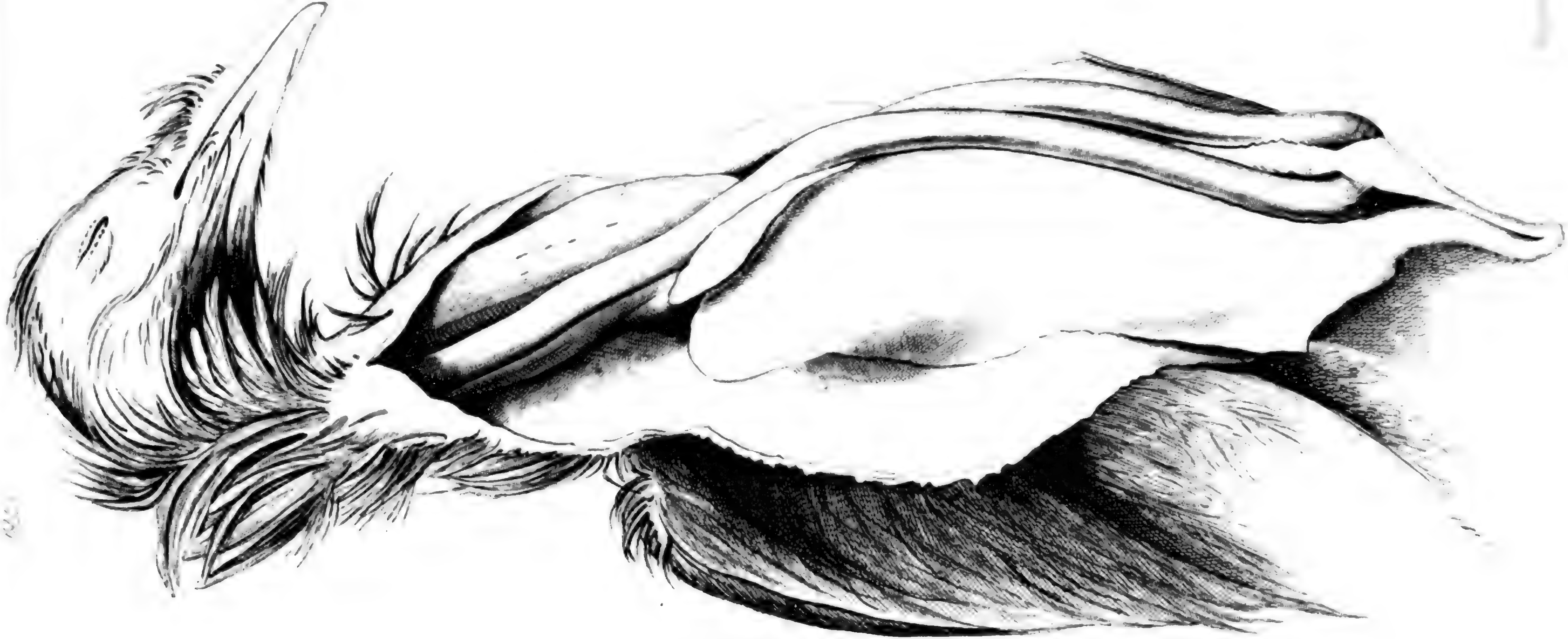


Tityra surinama. (Linn)
1848.

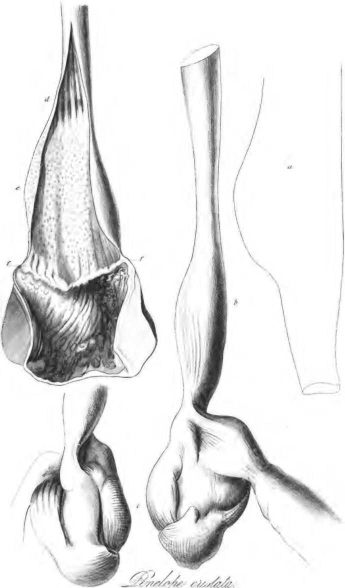


Timalia leucotis Strickl.

248

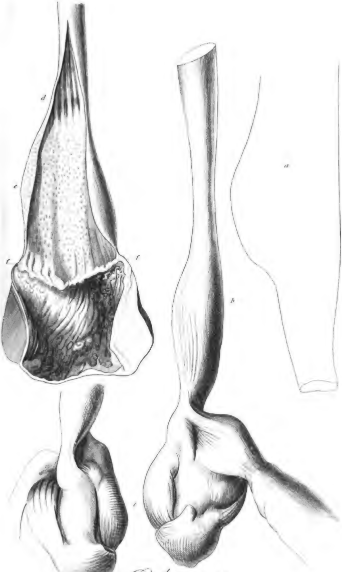


Ortalida ruficauda.



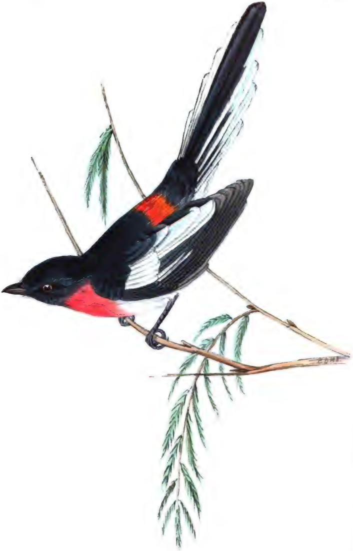
Penelope cristata.
1848

March 1848.



Penelope cristata
1828

12



Pericrocotus erythropygius (Jerd.)

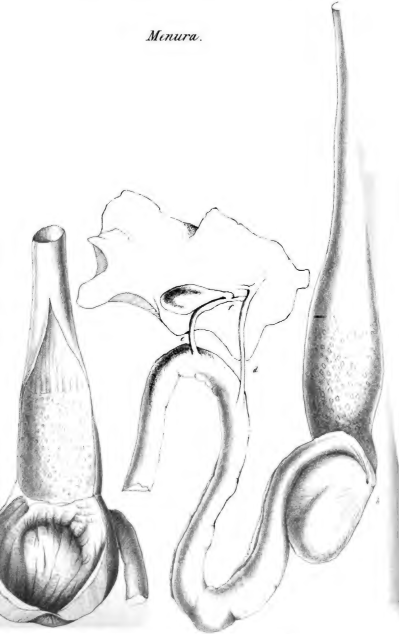
March 1848.

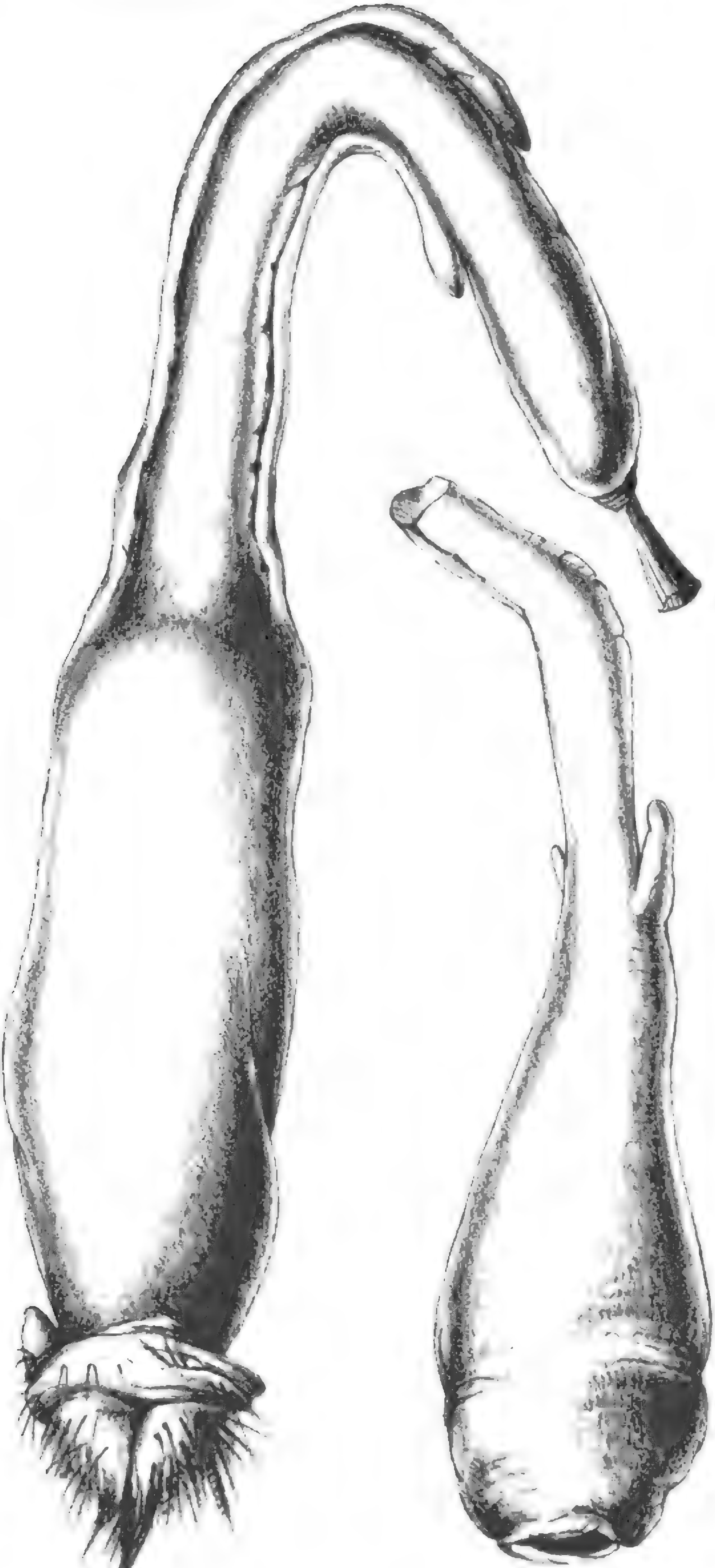
1849.

Plates 13 – 40

No 23.

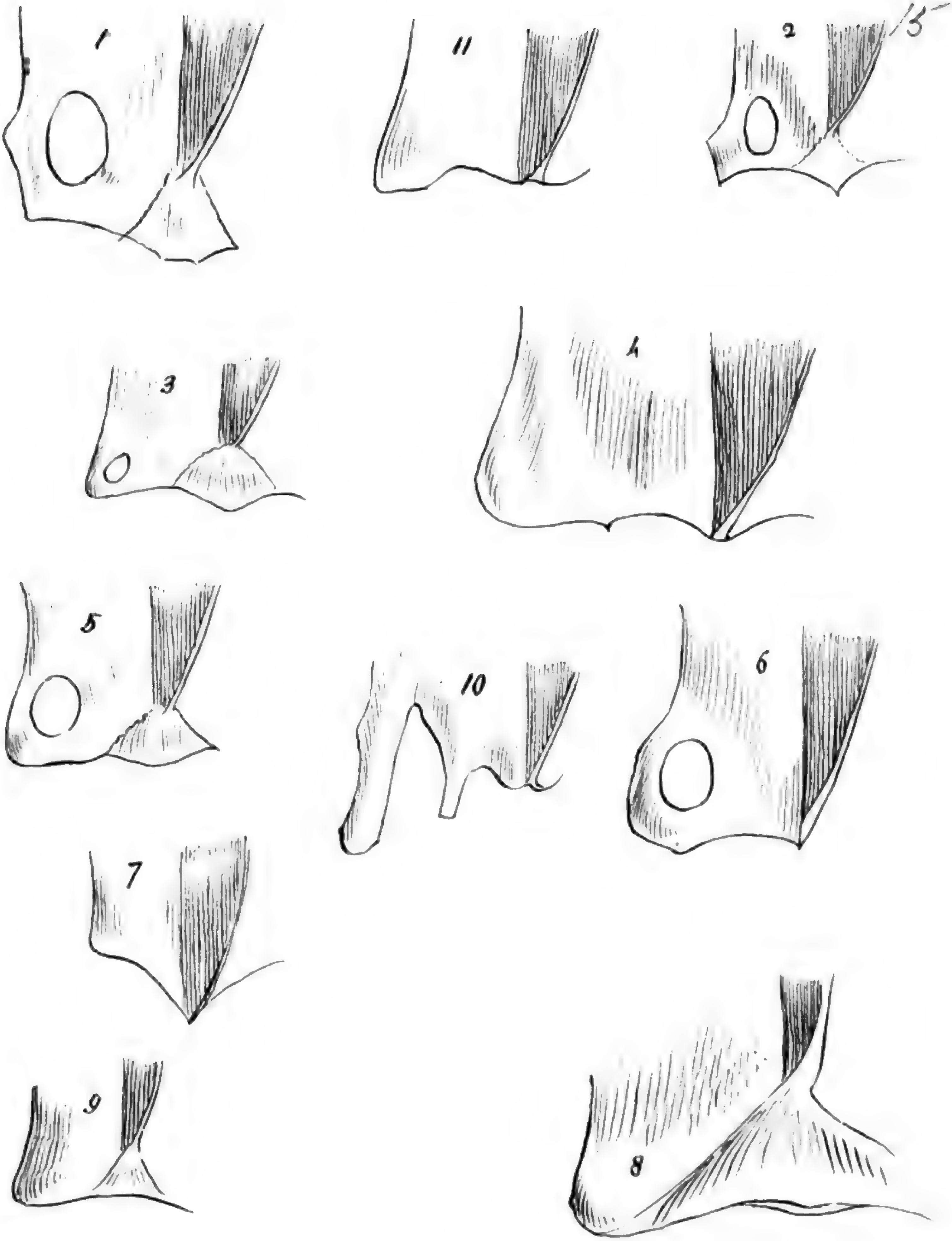
Menura.





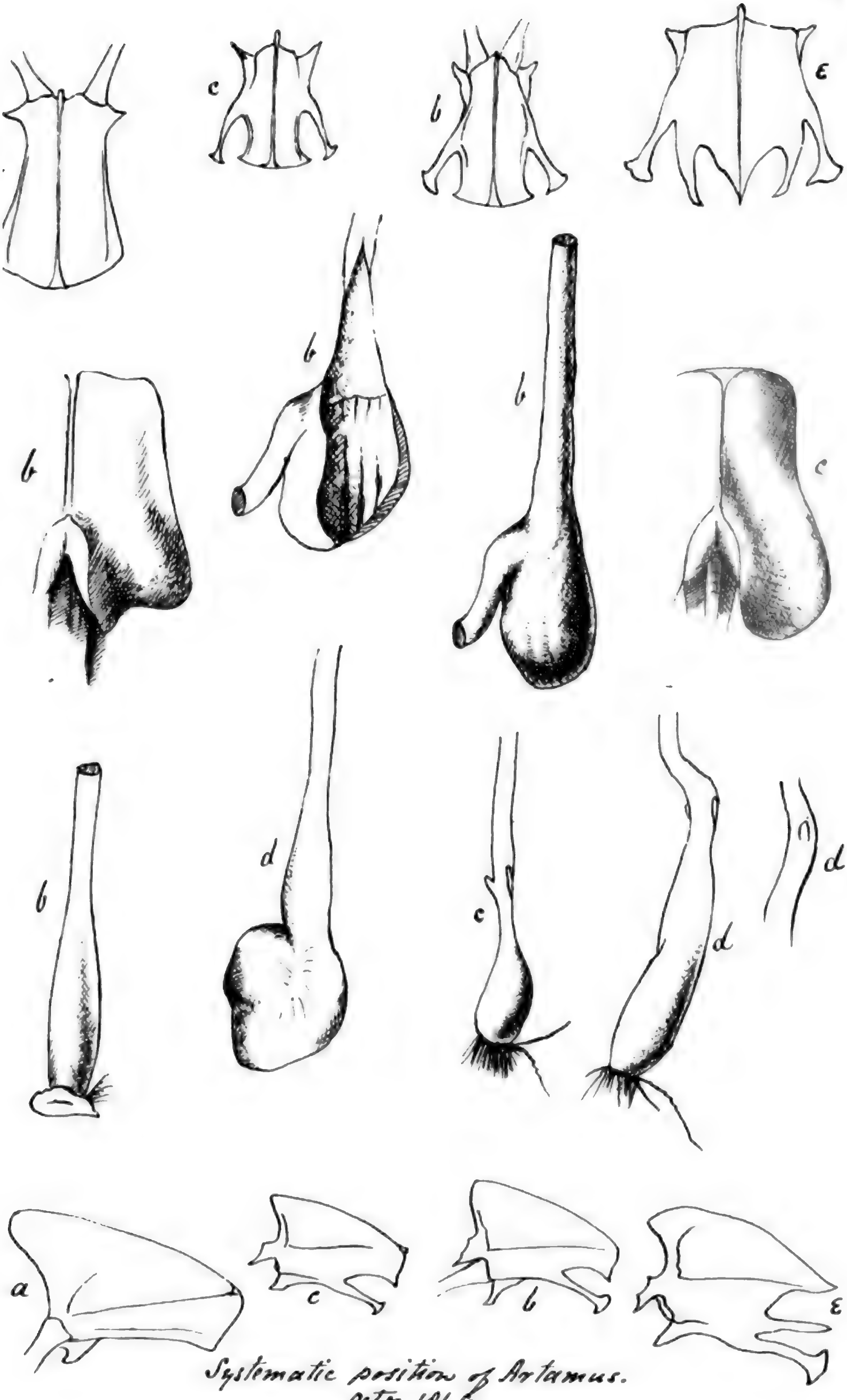
Penelope

Menura.



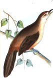
1 Gypäetos barbatus.
2 Cathartes aura.
3 Neophron percnopterus.
4 Sarcoramphus gryphus.
5 Gyps fulvus.
6 Vultur cinereus.
7 Serpentarius reptilivorus.
8 Aquila chrysäetos.
9 Circus æruginosus.
10 Nyctea nivea.
11 polyborus brasiliensis.

Decr. 1849.



Systematic position of Artamus.
Octr. 1849.

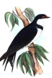
7



[illegible]

[illegible]

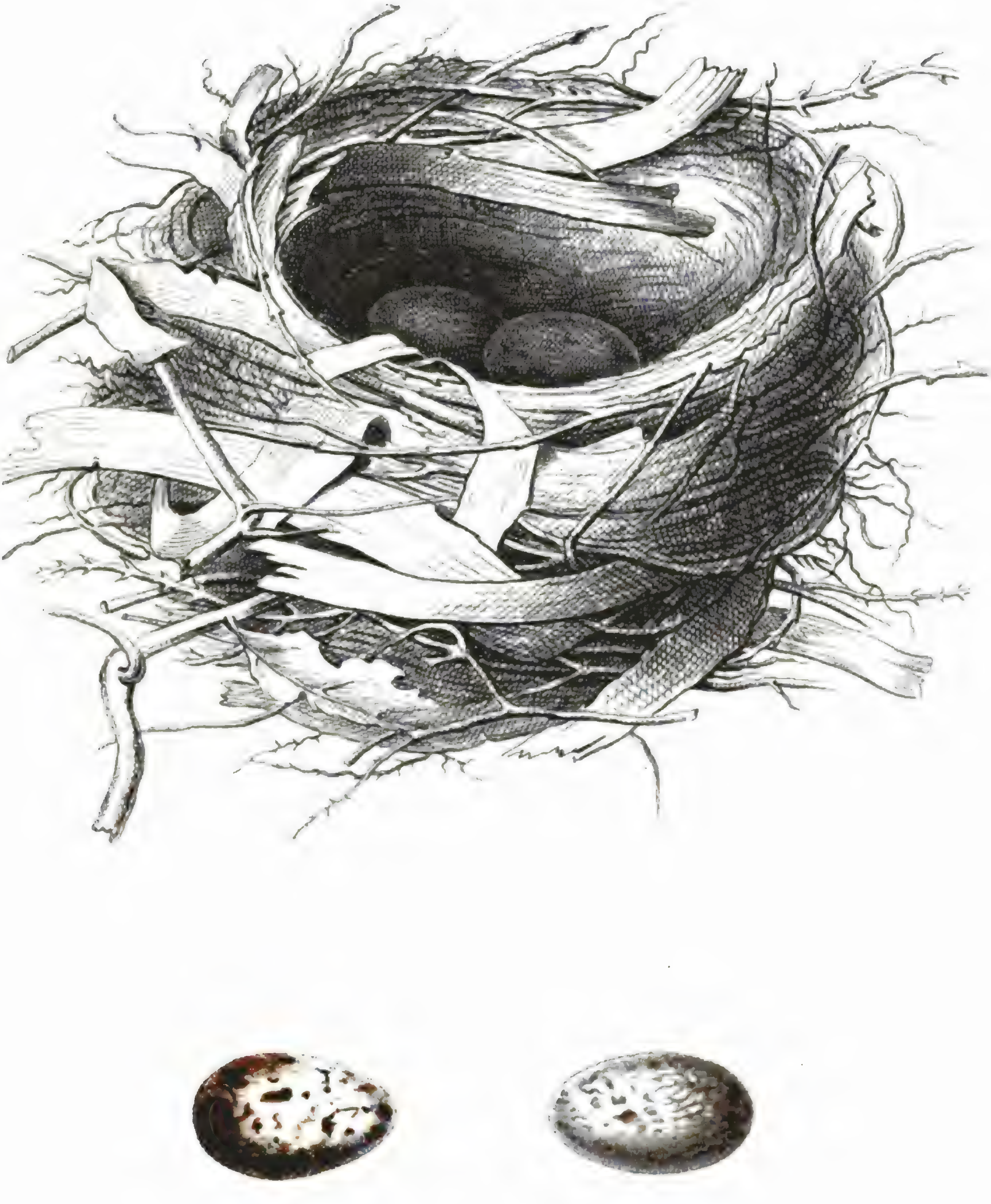
[illegible]



[illegible]

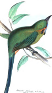
[illegible]

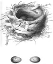
20



Tanagra cana.

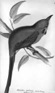
[illegible]





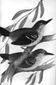
[illegible]

[illegible]

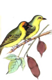


[illegible]

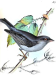
[illegible]



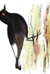
[illegible]



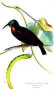
Ploceus [illegible] Hartl.
[illegible]



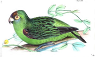
27

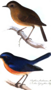


21



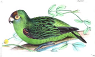
[illegible]



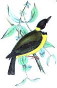


[illegible]
[illegible]

[illegible]

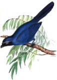


[illegible]
[illegible]

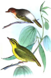


Pachycephala [illegible] [illegible]

[illegible]



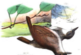
[illegible]

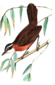


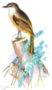
[illegible]

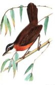
[illegible]

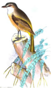
[illegible]

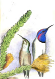


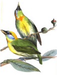






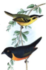






[illegible]

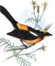
[illegible]



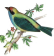
[illegible]

[illegible]

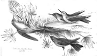
[illegible]

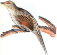


[illegible] [illegible] Spix.



[illegible]





[illegible]

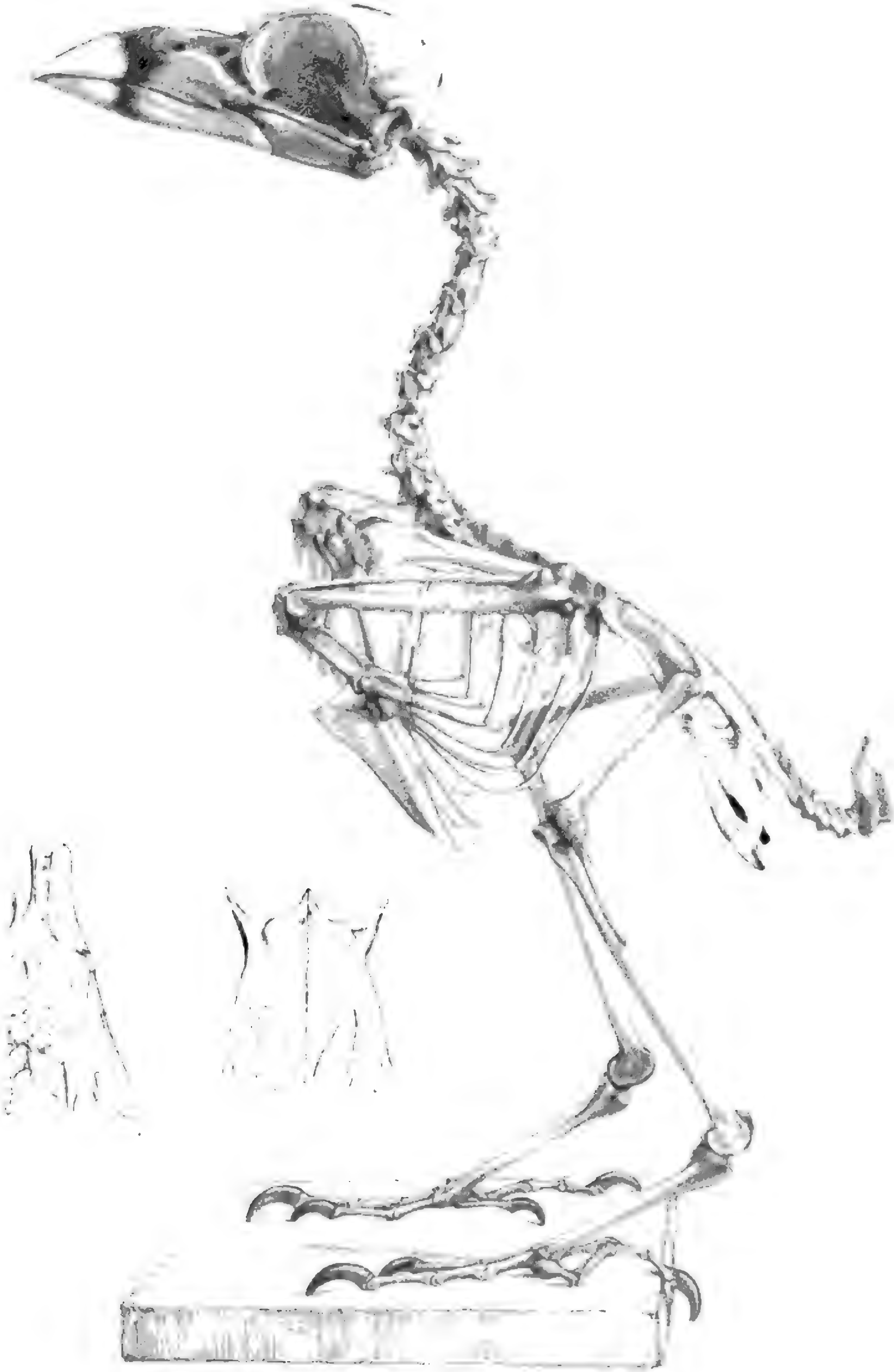
[illegible]

[illegible]

[illegible]

[illegible]

62



PSILOPOGON PYROLOPHUS nat size

G. H. Ford del.

Ford & George, Lithographers 54, Hatton Garden.

Fig 1.

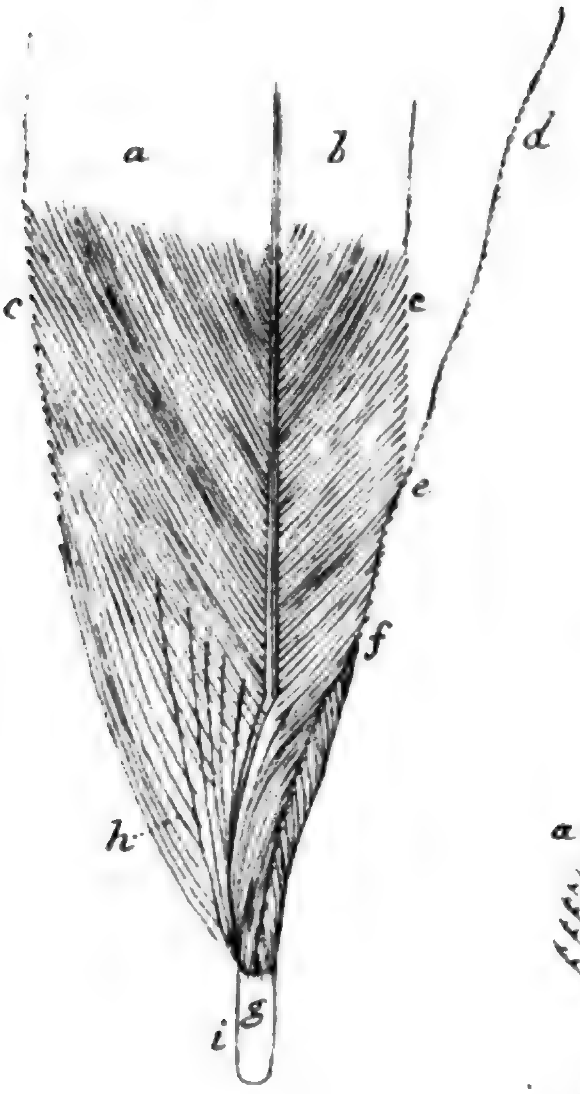


Fig. 2.

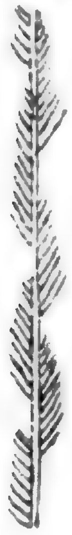
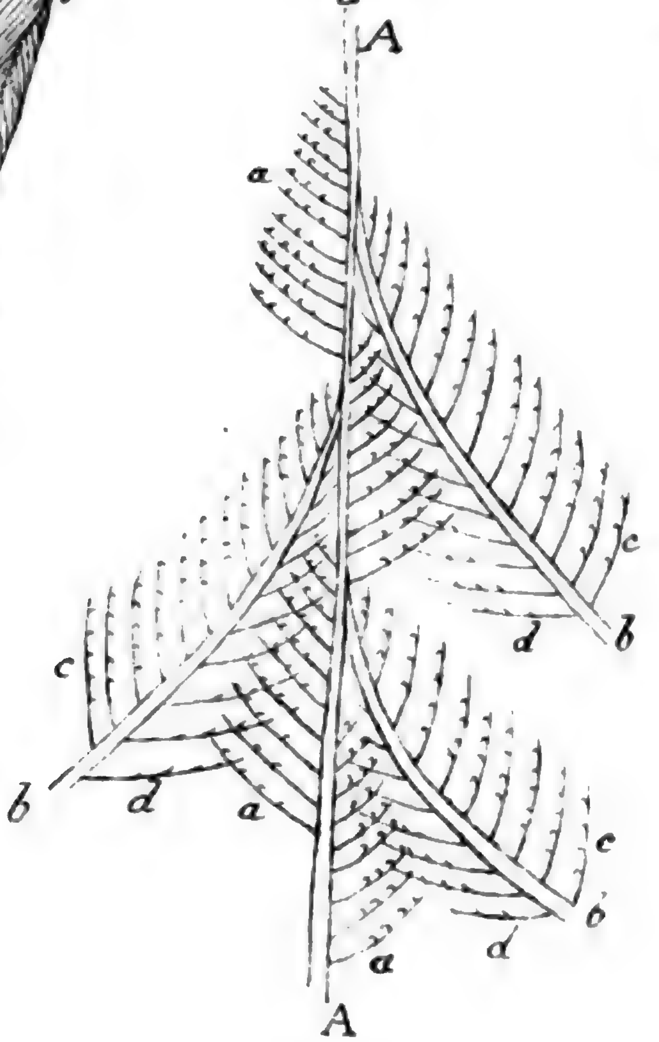


Fig. 3.

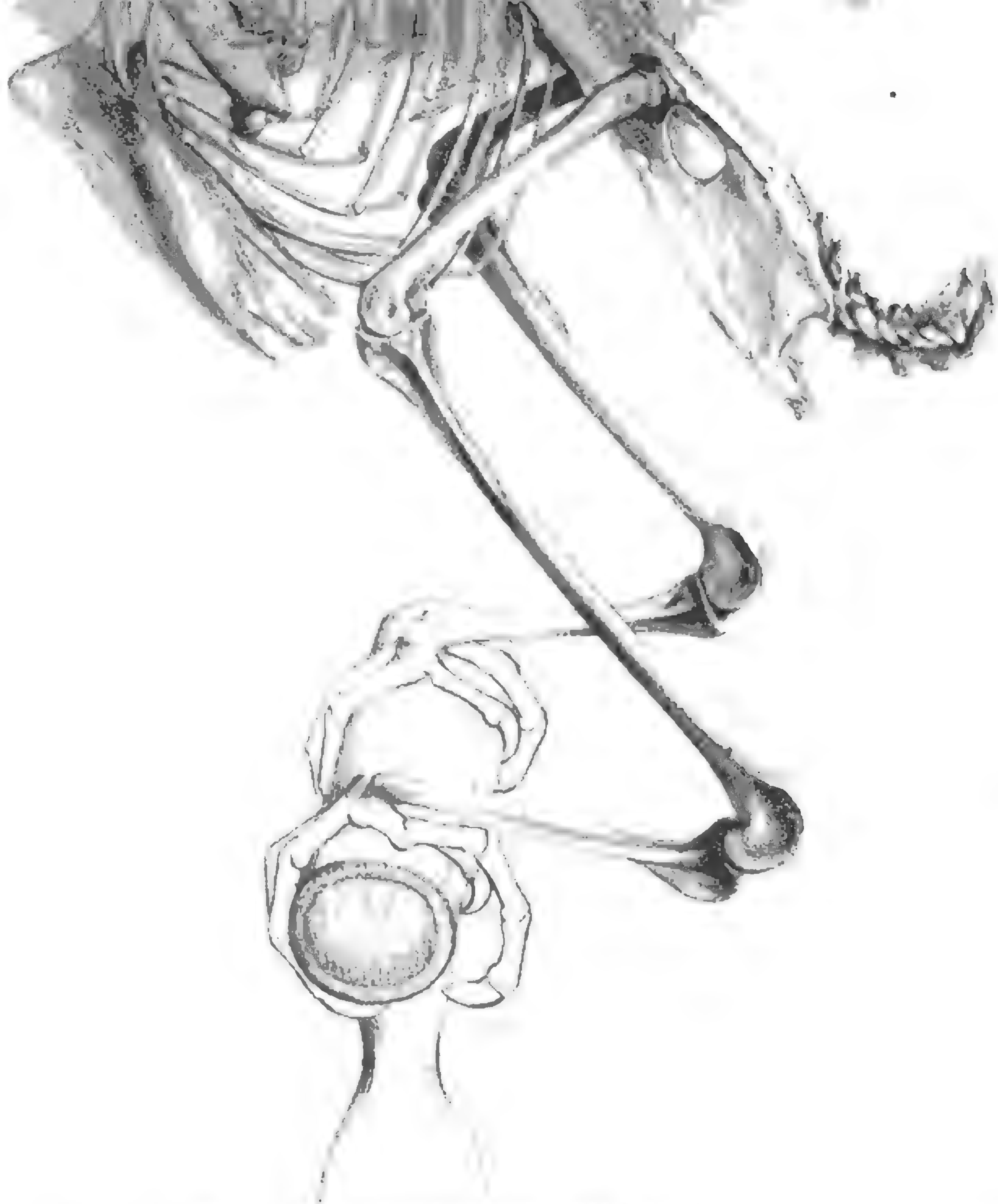


Submedial Rectrices of

Vidua paradisea (Lin.).

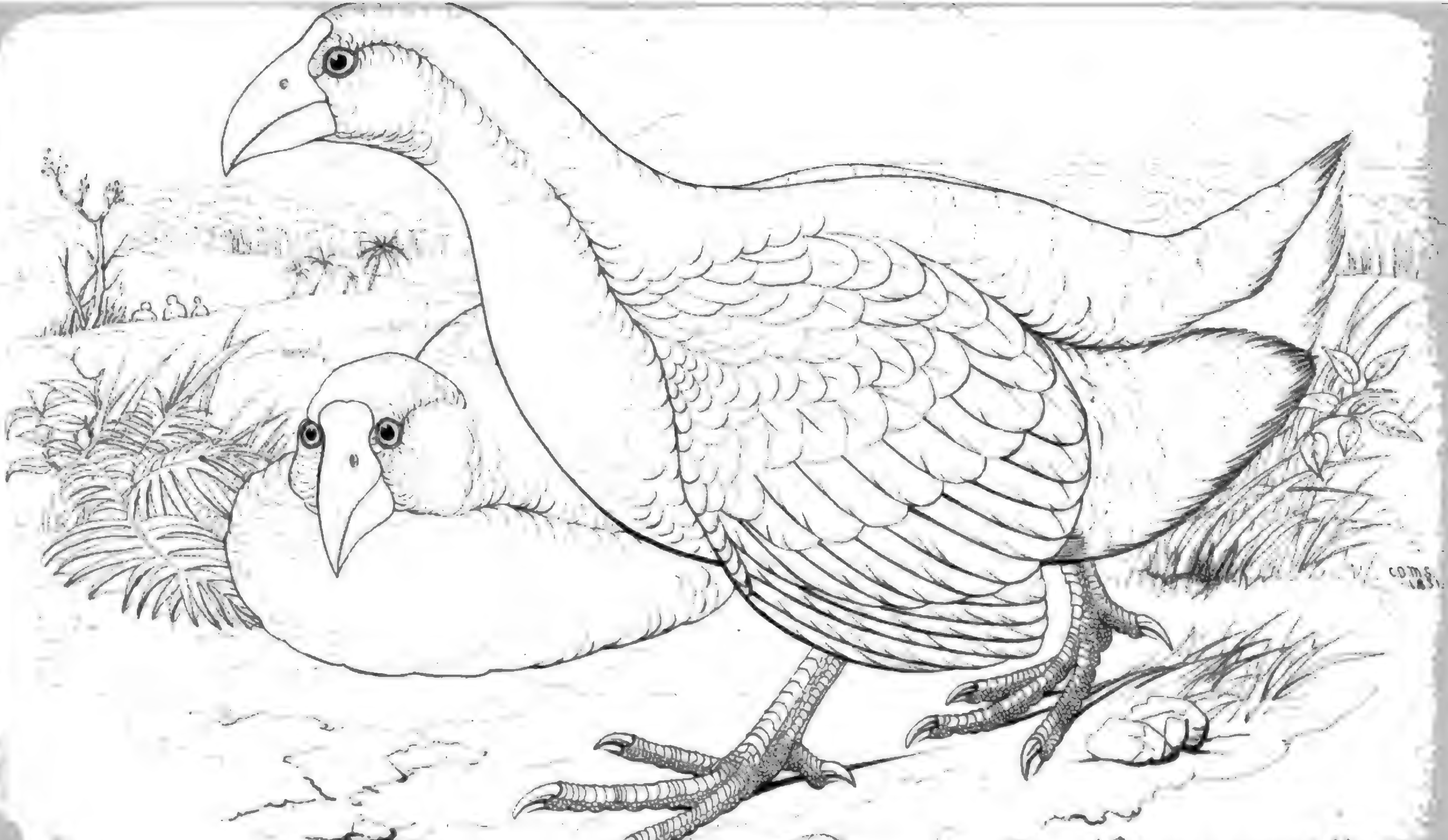
June 1850

nat size



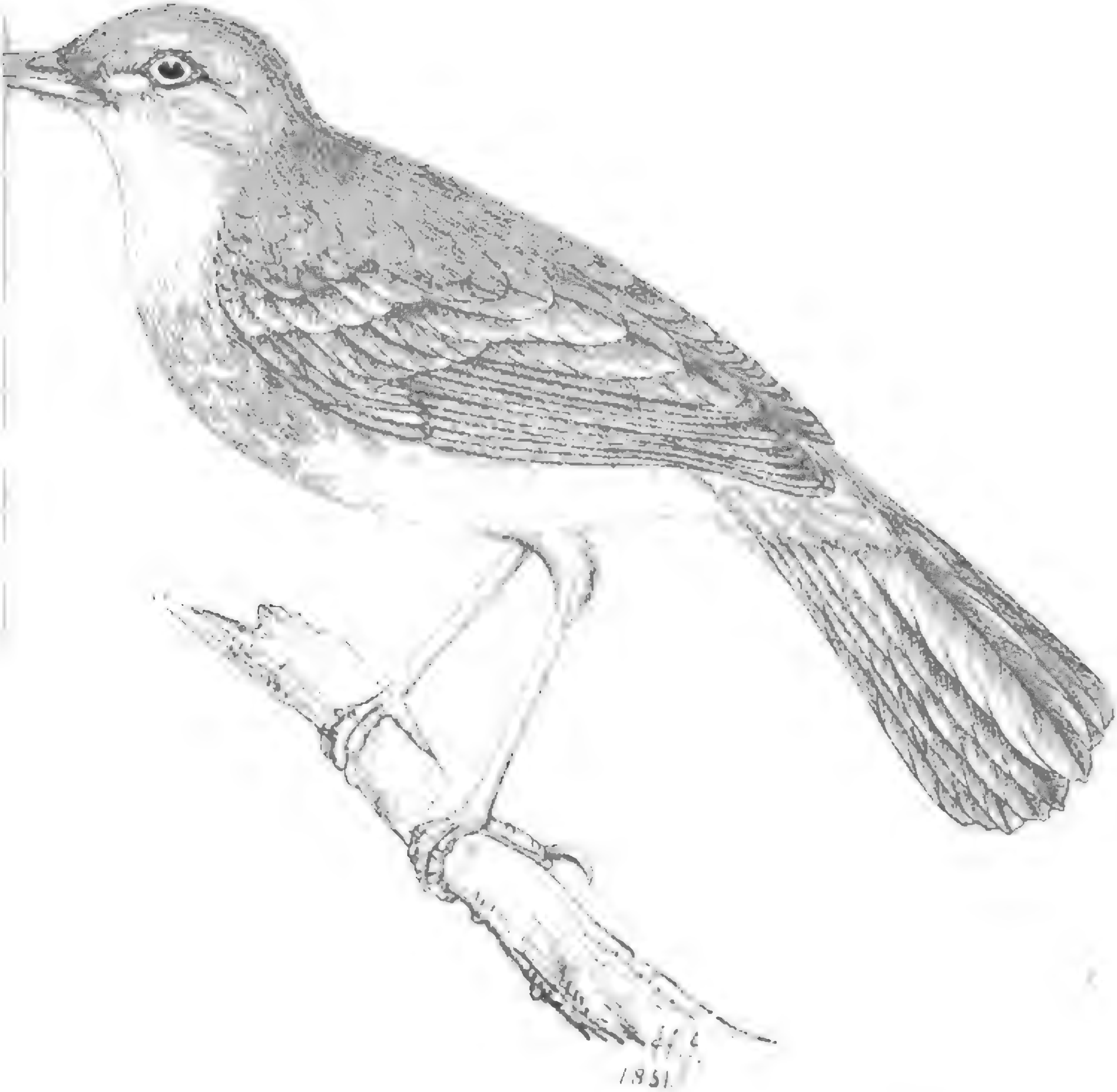
nat size

[illegible] [illegible]ORHYNCHUS [illegible] nat size



Notornis mantelli, 1851. ♂

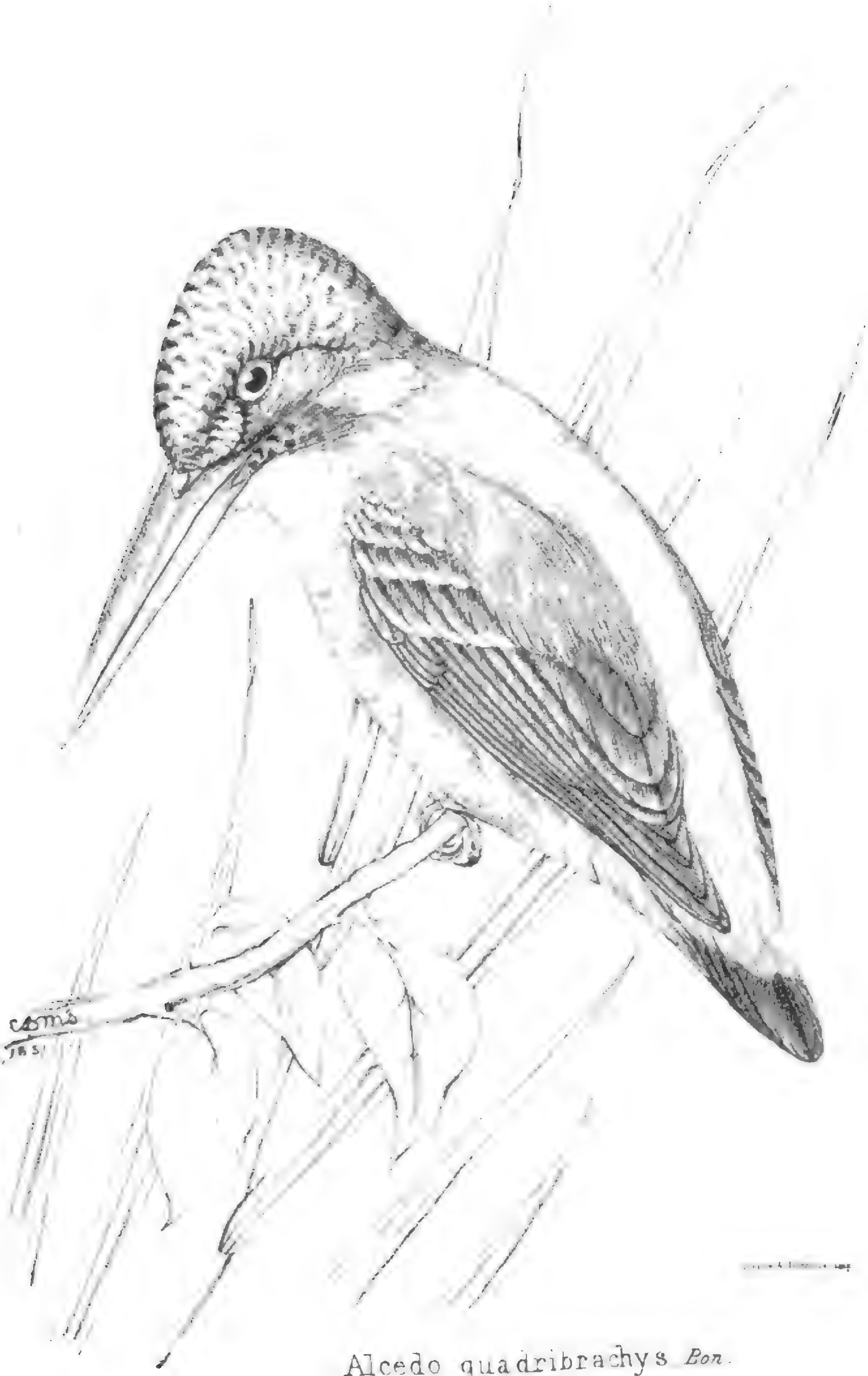
72



Reeve & Nichols imp

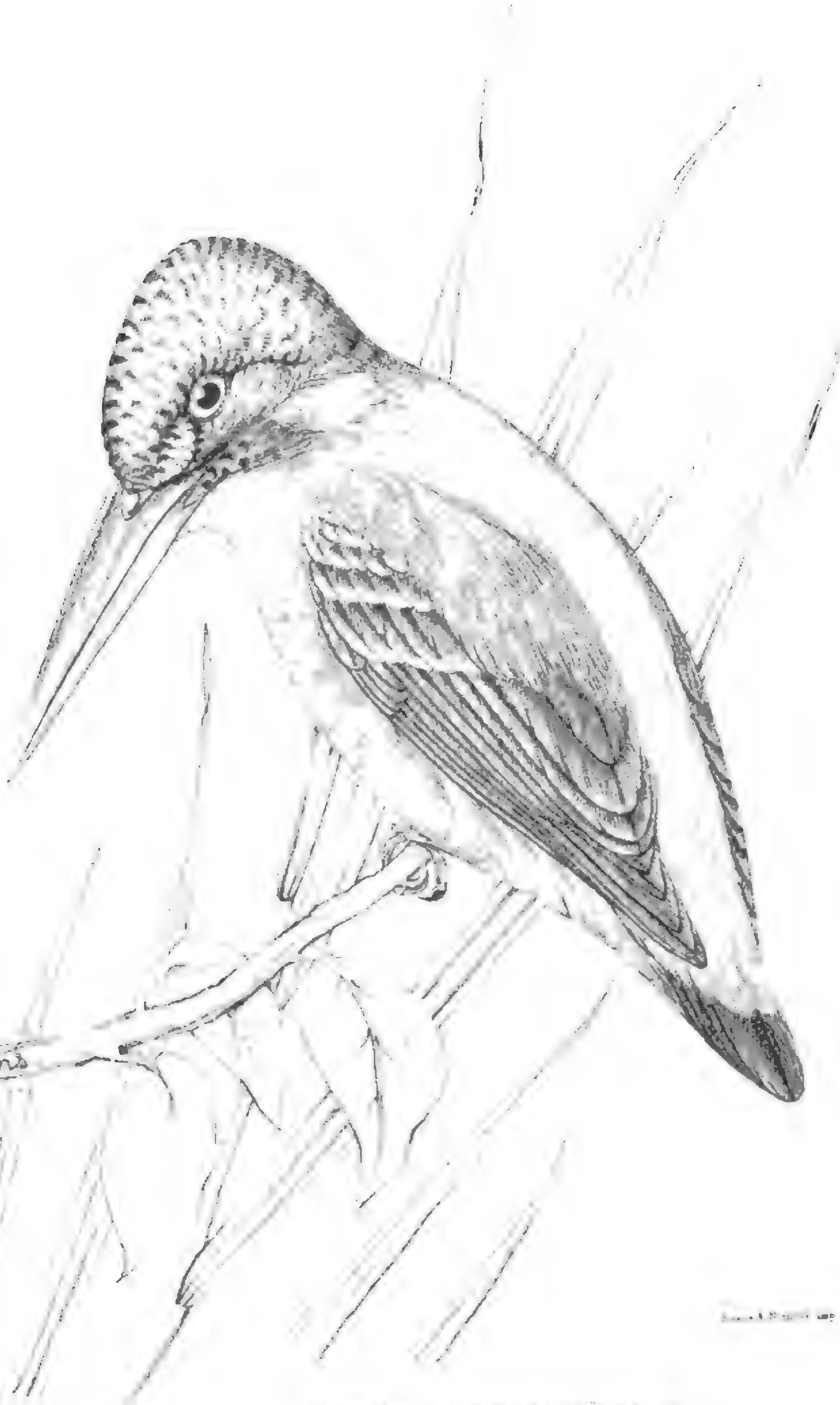
Turdus aurantiirostris, *Hartl*

79



Alcedo quadribrachys *Bon.*

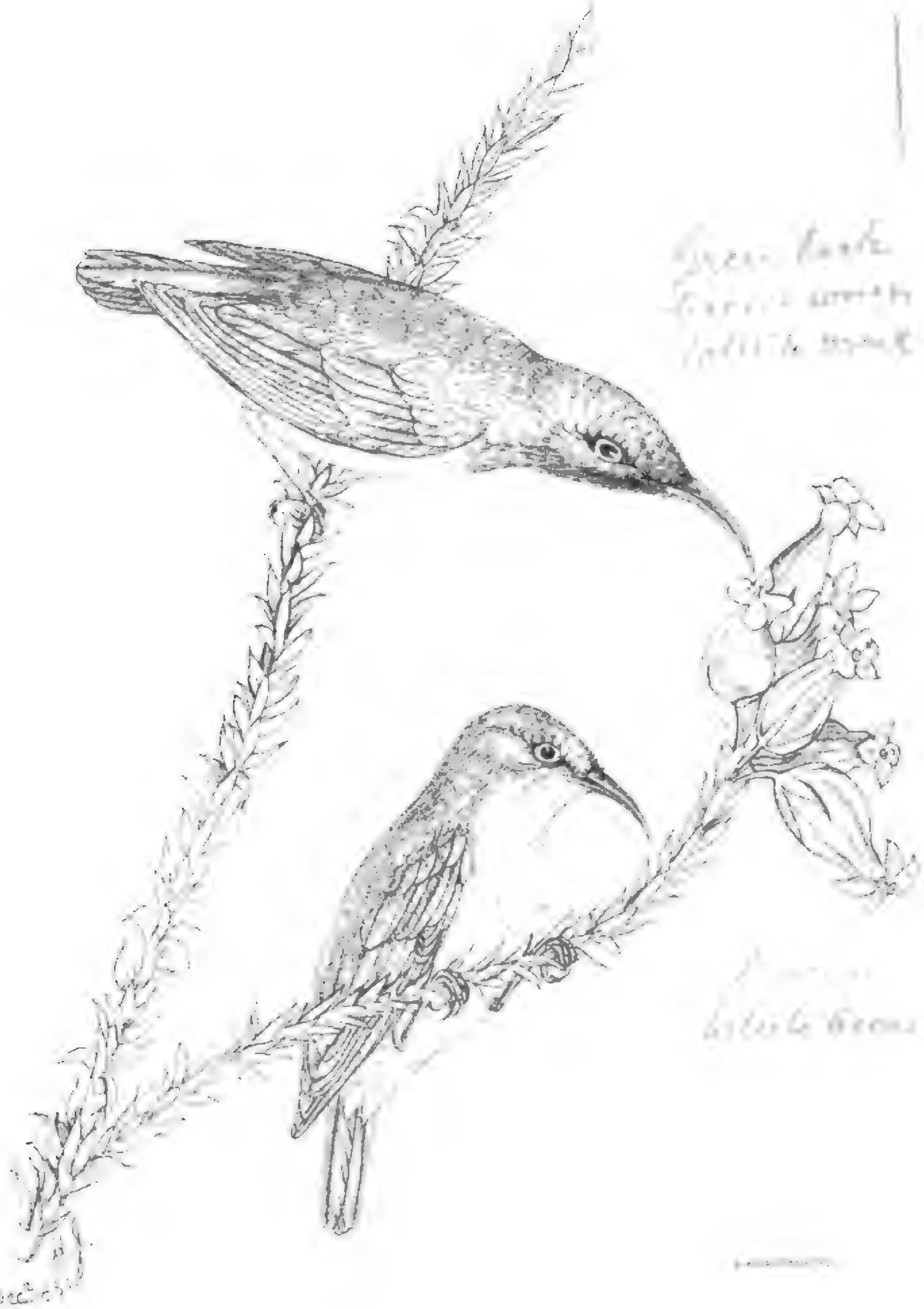
79



[illegible] imp.

Alcedo quadribrachys *Bon.*

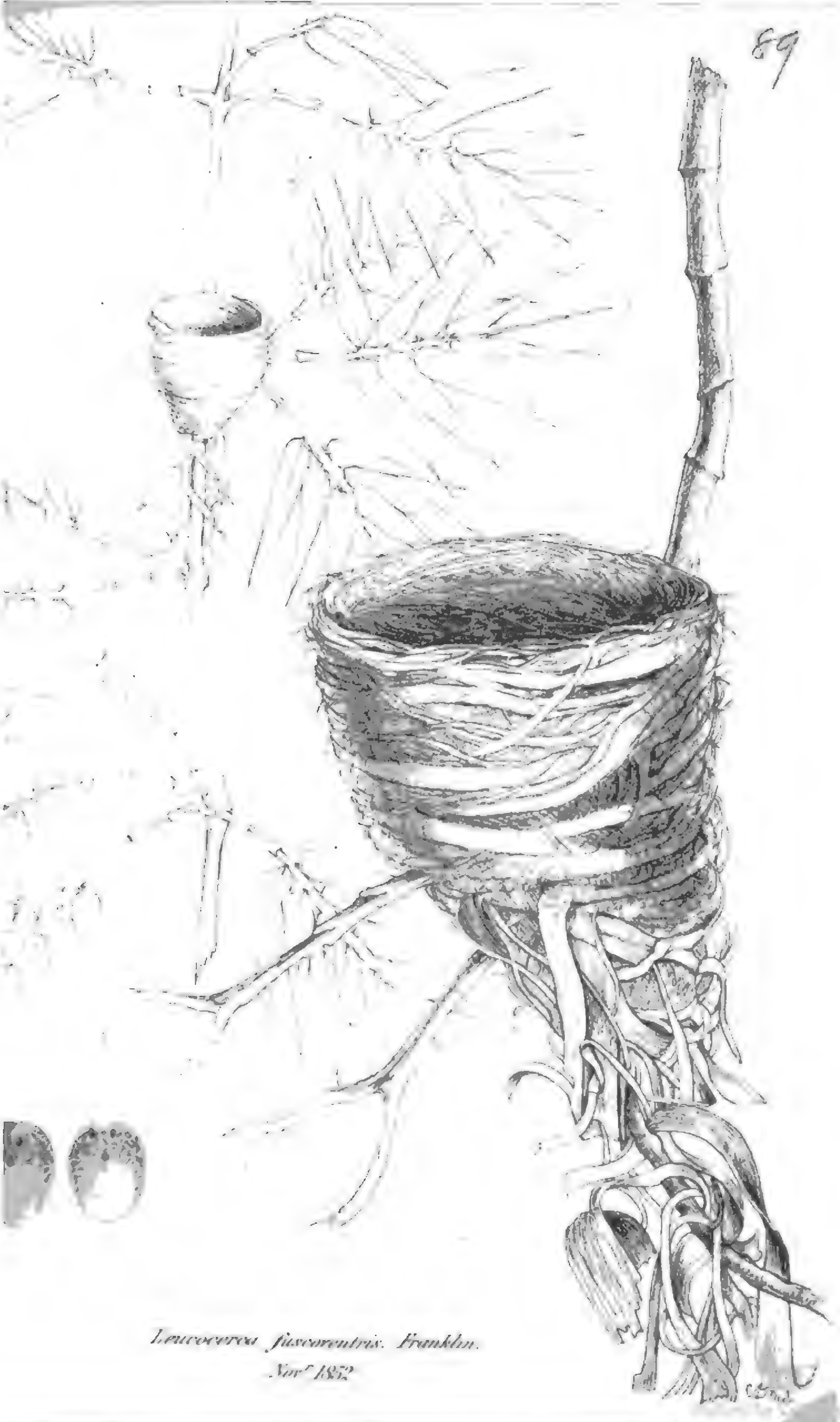
34



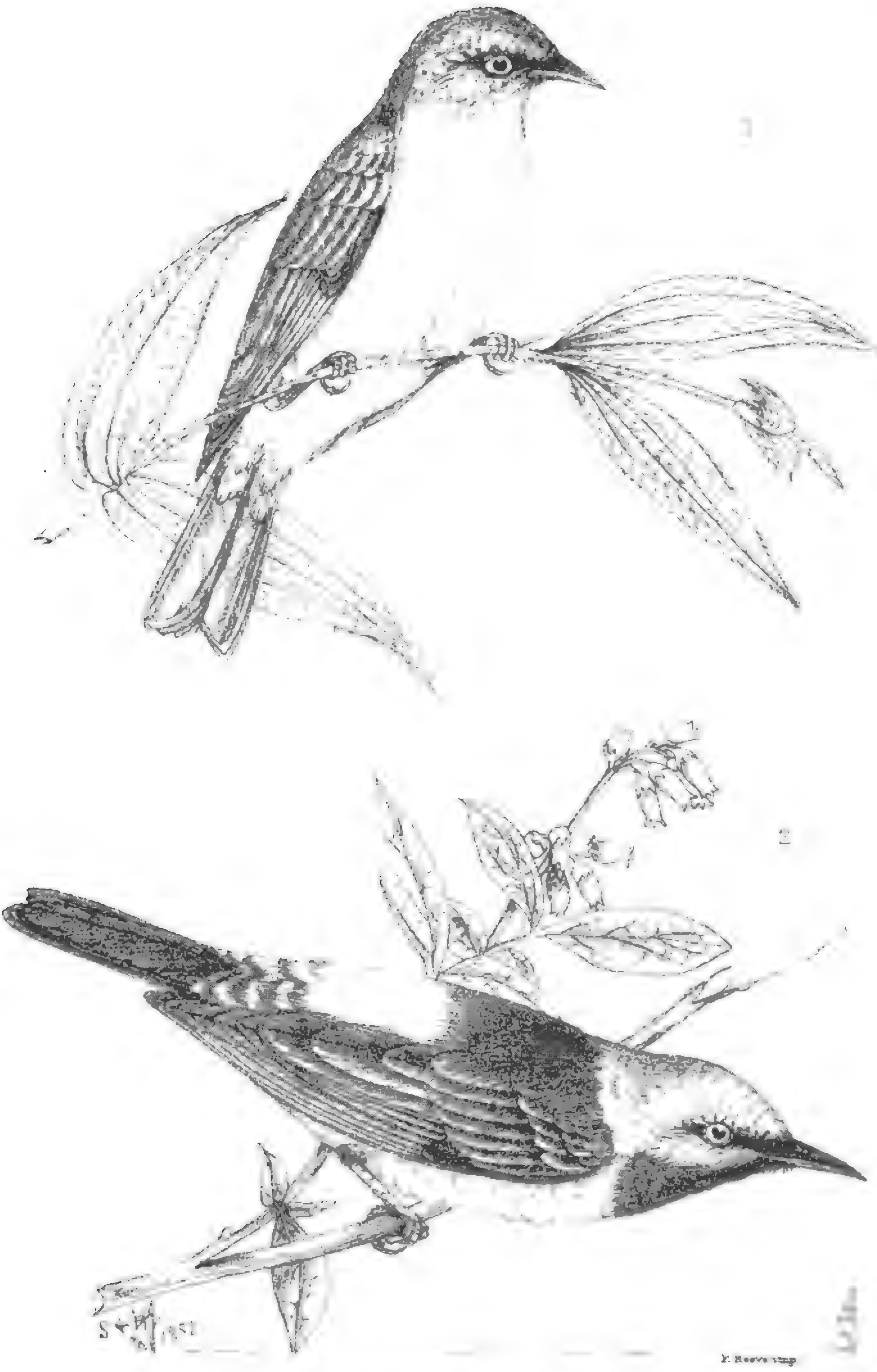
Upper back
[illegible] with
[illegible]

[illegible]
[illegible]

Nectarinia albiventris *Strickland*



Leucocerca fuscoventris. Franklin.
Novr 1832



1 Dacnis speciosa, *(Pr Max.)*
2 Dacnis cærebicolor, *Sclater*

1852

R